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ABSTRACT

This volume contains six articles. In "Integrational Linguistics as a Basis for Contrastive Studies," Hans-Heinrich Lieb discusses the problems associated with complex contrastive analysis. Hanne Martinet's "A Functional and Contrastive Analysis of Attributive Adjectives Endings in '-ant' and in '-ende' in French and Danish, Respectively," shows how present participles are transferred to the adjective class in both languages. In "On Proper 'Improper Answer'" Ewa Iwanicka shows the effect of context in determining what is grammatically acceptable. Jan Rusiecki, in "Latent Bilingualism," purports that with the aid of a modest grammatical machinery and a rich vocabulary, a learner can achieve a high degree of complexity and efficacy of communication in a second language. In "Towards a Semantic Syntax of English: The Case of the Modals 'can' and 'may,'" Rene Dirven argues that there is a strong interdependence between syntax and semantics and pleads for an approach to syntax that has a built-in semantic level. James Pankhurst provides a model for analyzing time and tense relations on a cross-linguistic basis in "Closer to a Theory of Tense for Contrastive Analysis." (PJM)

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THE POLISH-ENGLISH CONTRASTIVE PROJECT

PAPERS AND STUDIES IN CONTRASTIVE LINGUISTICS

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INTEGRATIONAL LINGUISTICS AS A BASIS FOR CONTRASTIVE STUDIES

HANS-HEINRICH LIEB

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1. Theoretical problems for complex contrastive analysis.

1.1. Requirements for contrastive analysis.

In 1972, Slama-Cazacu characterized 'the usual contrastive linguistic study' as 'consisting in establishing, *in abstracto*, the similarities and differences between the two systems', and forcefully argued that this was not enough:

> If contrastive linguistic analysis is to survive it must acquire a fresh image: ideally it will be a complex, multidisciplinary study, based on sound scientific principles and utilizing empirical methods of investigation, and it will have a clear theoretical background deriving from foundational research. Psycholinguistic investigations will play a key role in this study since it is vital to give due regard to the concrete realities represented by the language learner and the learning-teaching situation. Further important contributions to the study will be made by the linguistic analysis proper and by sociolinguistics, pedagogics and developmental psychology.[1]

At the time, contrastive analysis (CA) had been meeting with increasing scepticism.[2] Slama-Cazacu's statement is remarkable not for supporting this scepticism but for succinctly summarizing the requirements that sho uld be met for improving the status of CA. Her own proposal is for a 'contact analysis of the two systems in the learner' (1974 : 238).[3] 'Contact analysis' may well be one of the most interesting conceptions put forward in contrastive linguistics, still, not everybody may wish to subscribe to it. In any case, Slama-Cazacu's general requirements for 'contrastive linguistic analysis' seem to define a standard that should be met.[4]

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[1] Slama-Cazacu (1974: 236f and 235).

[2] The titles of James (1971) (*The exculpation of contrastive linguistics*) and Di Pietro (1974) (*Contrastive analysis: demise or new life*) are indicative of the situation. That it has not entirely changed can be seen from Sanders (1976), which is written in a spirit similar to James (1971). Critical voices were raised already in Alatis (ed.) (1968): Hamp (1968), Lee (1968); and Nemser and Slama-Cazacu (1970) were particularly outspoken. Objections to CA were raised both on practical grounds (doubtful relevance to the language teaching context) and for theoretical reasons (too narrowly linguistic, among others).

In the present paper I shall be concerned with four theoretical problems that arise in any attempt to meet Slama-Cazacu's requirements for CA.

1.2. Four problems for complex contrastive analysis.

The first problem is raised by the conception of CA as 'a complex, multidisciplinary study':

(1) *Problem of the linguistic and the non-linguistic.* If we wish to derive consequences from linguistic and non-linguistic results (psychological ones, sociological ones etc.), we must be able to combine those results in a single theoretical framework allowing for deductions. How is such a framework to be conceived?[5]

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[3] A characteristic feature of 'contact analysis' is the assumption of 'approximative systems' developed by the second-language learner (cf. also Nemser 1971, Nemser and Slama-Cazacu 1970, Nemser 1975), an idea supported in Kufner (1973), and independently suggested, with some differences, in Selinker (1969, 1972) ('interlanguage'), Corder (1967, 1971) ('idiosyncratic dialects', cf. also Corder (1973 : 268ff)), and James (1972) ('interlingua'). Use of 'approximative systems' by now tends to be generally accepted; cf. e.g. Barrera-Vidal and Kühlwein (1975: Sec. 6.3), Ebneter (1976: Sec. 10.1), Corder (1976), Hanzeli (1976).

[4] It is noteworthy that Lado (1957) envisaged a 'systematic comparison of *languages and cultures* [my emphasis] (title of Ch. 1). Di Pietro again argues (1974 : 76) for inclusion of 'sociological and cultural factors'. Kufner (1973) endorses a position similar to the one of Nemser and Slama-Cazacu (1970): contrastive grammars should be transformed into 'pedagogical' ones that combine 'linguistische Betrachtungsweisen mit psycho-pädagogischen'. Bausch (1973 : 175) also supports 'contact analysis'. Zimmermann (1974) suggests inclusion of 'pragmatic' (speech act) considerations. Barrera-Vidal and Kühlwein explicitly advocate a 'contrastive pragmatics' (1975 : 122). The need for 'a clear theoretical background' has been emphasized by a number of authors. Thus, Nickel states of all contributors in Nickel (ed.) (1971 : 1. IX) that they 'seem to be in agreement on one point of methodology: that one and the same approach should be used within one and the same investigation'; cf. also Nickel (1971 : 5), and many of the authors mentioned below, fn. 11.

[5] The problem is well exemplified by the way in which Lado (1957) suggests to include cultural data into CA. He proposes a 'comparison of cultures' (Ch. 6) in addition to a comparison of languages but fails to indicate how the two might be systematically related. I do not know of any explicit answer to (1) as a general theoretical problem. (The standard move in generative grammar — relegating most of the non-linguistic to a 'theory of performance' — is unsatisfactory for at least three reasons: so far, there is

The second problem arises by considering individual language learners in their actual situations:

(2) *Problem of concreteness.* Suppose that we wish to use a contrastive study in partial explanation or prediction of the language learning behaviour of specific learners. We must then be able to relate the study both to their behaviour and to other, possibly unique facts relevant to the explanation or prediction. How can such a relation be established in a way that is not entirely ad hoc?

Indeed, it is this problem that should be at the root of much criticism of traditional CA.[6] Such criticism has tended to emphasize the seeming irrelevance of CA to explaining or predicting the errors made by specific language learners.[7] The 'usual contrastive linguistic study', being a study of language systems in abstracto, does not answer the question how its results may be related to specific learners in their unique situations: we do not really know how to apply the analysis.

The third theoretical problem consists in dealing adequately with the fact that no language is absolutely unique:

(3) *Problem of the general and the particular.* In contrasting several language varieties we should in principle be able to single out those properties which the languages or varieties share for reasons of universality, or which they share or do not share for typological reasons. How can this be achieved?

In the formulation of (3), reference to language varieties (dialects, sociolects etc.) was deliberately included. It obviously is 'one of the concrete realities represented by the language learner and the learning-teaching situation' that languages are represented in form of language varieties, that is, CA should take the internal variability of languages fully into account.[8] With respect to varieties, the problem of the general and the particular has, so to speak, one additional layer: we should also be able to single out those properties which the varieties share or do not share because they are varieties of specific languages.

There is an extensive discussion already in traditional CA on how CA is

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no such theory; it is notoriously unclear how such a theory should be related to a grammar; and the very distinction between 'competence' and 'performance' has been thrown into doubt.)

[6] See above, fn. 2. I shall use 'traditional CA', somewhat arbitrarily, to refer to the type of CA that is mainly concerned with purely linguistic comparisons.

[7] Catford (1968 : 159) suggests that 'the function of contrastive analysis or descriptive comparison in language teaching is explanatory rather than predictive'. But this must be a spurious contrast, given the largely symmetrical relation between explanation and prediction, which differ mainly in their temporal aspects.

[8] This is recognized, for instance, in Di Pietro (1974) and emphasized in Levenson (1971 : 277).

related to the study of language universals and, to a lesser extent, on how it is related to language typology.[9] A solution to problem (3) is clearly necessary if CA is to have 'a clear theoretical background deriving from foundational research'.

The fourth problem has also been recognized in traditional CA in the following restricted form:

(4) *Problem of the metalanguage: restricted form.* For formulating contrastive statements about several languages or language varieties, we need a (meta)language in which we can adequately refer to any one of them. What kind of language is to be used?[10]

> This problem is usually seen as finding a suitable 'model' or 'framework': Before we can contrast two languages, we need to establish a general framework (a 'model', to use the term now in vogue) within which both languages can be analyzed; only then can we effectively compare the two and note the two and note the contrasts between them.[11]

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[9] Language universals are assigned a fundamental role in CA by Di Pietro 1971 (cf. esp. 3f and Sec. 2.5). Generally, authors who favor a 'semantically based' grammar (cf. below, fn. 11), tend to posit the universality of the 'semantic structures' (Krzeszowski 1973, Gatto 1974). Likewise, universal phonetics is seen as the basis for phonological contrastive studies (Kufner 1973 : 27; Corder 1973 : 255, but cf. 253). Conversely, the importance of CA for research on universals is also stressed (Ferguson 1968 : 101; Nickel (ed.) 1971 : X). In Coseriu's opinion, however, CA is concerned not with universals but only with 'das empirisch Allgemeine' (1970 : 30). Cf. also various contributions to Jackson and Whitman (eds) (1971) for attempts to relate CA to the study of language universals. CA is seen as relevant to typology already in Harris (1954 : 259); its relevance is emphasized in Coseriu (1970 : 19). Nickel (1975 : 39) subsumes 'questions of language typology and universals' under 'Contrastive Linguistics as a theoretical discipline'. For typology, this corresponds to the position in Trager (1950) (as argued by Bausch [1973 : 164], who draws attention to this paper as presenting 'the first model that was explicitly called 'contrastive' by its author'). Nemser and Slama-Cazacu (1970 : 108), on the other hand, insist on 'crucial differences between contrastive linguistics and comparative typology'.

[10] Language varieties have been included for the same reasons as before. By 'adequately refer' I mean not only reference to a single language but the possibility to formulate any comparative statement that seems appropriate. This requires a metalanguage with the necessary terminology.

[11] Moulton (1968 : 27). Various proposals for a theoretical framework have been made: Harris (1954), generative in spirit if not in detail, was taken up by Wyatt (e.g. 1971); Krzeszowski (1972 and 1973) [Krzeszowski (1974) became accessible to me only well after this essay was finished] outlined a format for 'contrastive generative grammars' (for criticism, cf. Bouton (1976)); so did Di Pietro (1971), in much greater detail and on the basis of a modified version of Fillmore's 'case grammar'. Krzeszowski and, to a lesser extent, Di Pietro propose a 'generative semantics' type framework; similarly, Pusch and Schwarze (1975). 'Semantically based' grammars or analyses are also advocated by Corder 1973, esp. 243f, Burgschmidt and Götz (1973), Gatto (1974), Marton

Strictly speaking, discussion of 'models' goes beyond the question of which descriptive language to choose: directly or indirectly, the 'models' considered ('structuralist', 'generative transformational', or others) imply a general theory of language that is to supply assumptions on all languages. These assumptions provide the background before which two given languages are to be contrasted. This takes us directly back to the problem of the general and the particular. Deciding on a general 'model' can be seen as an attempt to give a joint solution to problems (3) and (4): the theory of language associated with the 'model' provides the universal (if not typological) assumptions needed in connection with (3), and it also provides terms for talking about any language, hence, for talking about the given ones.[12]

It is worth keeping in mind the idea that a theory of language may be basic to solving both problems (3) and (4) even if the suggested 'models' are not accepted. I would indeed claim that the problem of the metalanguage has not been adequately solved in any of the models, even in its restricted form. It is of course impossible to discuss this question here in detail. All I can do is briefly point to the inadequacies of at least one model, generative grammar.

Grammars in this model are generally beset by the problem of how an algorithm for generating formal objects can be understood as a theory of a natural language. Known solutions require a conception of a generative grammar as a 'one language grammar' in which symbols like 'S', 'VP' etc. refer to the sentences, verb phrases etc. of a single language.[13]

So far, actual or suggested CA within a generative framework has taken one of two forms:[14] (a) comparison of different grammars, or (b) writing a single grammar that contains a single base and, in addition, either different

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(1974), Dirven (1976). Technically the most advanced proposal for 'generative contrastive analysis' should be contained in Kohn (1974) (characterized in Kohn (1976)). Structuralist frameworks continued to be used or proposed even in the heyday of generative grammar (cf. Snook (1971) for stratificational grammar, Liem (1974) for tagmemics). Mach and Machova (1974 : 171) suggest 'a certain type of dependency grammar as conceived by the Prague Linguistic School'. Moulton (1968) attempts a synthesis of a number of conceptions.

[12] Such a position is implicitly taken in Di Pietro (1971) (cf. e.g. 4, 17, and the proposed format for contrastive descriptions). It also underlies the negative conclusion reached by Corder who, finding universality only in semantics and phonetics, submits (1973 : 255) that 'between the message and its physical expression in sound, there is a fundamental lack of common categories and relations available for really adequate comparison between two languages'.

[13] For a detailed demonstration, cf. Lieb (1974: Sec. 1).

[14] A third form — generating one language on the basis of a grammar for the other (Harris (1954)) — was again considered by Di Pietro (1971: Sec. 2.3) as a theoretical possibility but may here be disregarded.

subparts to correspond to different languages,[15] or a single part to take account only of the differences between languages.[16]

Contrastive analysis according to (a) disregards the ambiguity of symbols like 'S' (which ambiguously refer to categories of different languages).[17] Moreover, CA of this type falls back on everyday language for formulating its contrastive statements about grammars (which do not belong to any single grammar). Finally, it is unclear how such statements on grammars are to be translated into contrastive statements on languages.

Contrastive analysis according to (b) assumes an interpretation of the base symbols that makes them applicable to any of the languages involved. So far, such interpretations have been restricted to informal hints; and it remains unclear whether the problem of the 'one language grammar' is solved. The contrastive statements again raise problems. Either they do not belong to the grammar, and we are confronted with the same situation as in case (a).[18] Or they are to be generated by the grammar (apparently Krzeszowski's position), which requires an algorithm of a novel and not yet specified kind. Or they are to be taken as rules of the grammar (apparently Di Pietro's position), which introduces rules of a novel and not yet clarified format.[19]

The problem of the metalanguage is aggravated if we also wish to solve problems (1) to (3):

(5) *Problem of the metalanguage*: *expanded form*. For a complex contrastive analysis, we need a (meta)language in which we can adequately refer to
  a. any of the languages or varieties that are being contrasted;
  b. any relevant type of languages, and language in general;

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[15] Wyatt (1971); apparently also envisaged by Krzeszowski (1972, 1973); included in the conception of Kohn (1974, 1976), which does not, however, require a common base.

[16] Di Pietro (1971: esp. 30). Nickel's suggestion of a 'differential grammar' (1971 : 9) seems to be compatible with either (a) or (b) in its second form.

[17] The ambiguity is noticed, and recognized as a problem, by Whitman (1970 : 192; for 'sub-sentence units', i.e. symbols, like 'N'). Cf. also Kohn (1974: esp. 50; 1976 : 127).

[18] This remains true of the most sophisticated proposal for a contrastive analysis according to (b), the one presented in Kohn (1974, 1976). Kohn assumes, in addition to the grammar, a special 'contrastive description' that contains a set of 'contrasts' as a component.

[19] In both forms of (b) it is necessary to explicitly introduce names of the various languages, for obvious reasons. In Wyatt (1971), such names seem to have the status of indices to category symbols, which is formally unobjectionable. Kohn (1974 : 55ff, 1976 : 130ff), systematically uses indices to rules for representing language names. The status of the language names is unclear in Di Pietro's example for a rule that might serve for a contrastive statement (1971 : 30). The language names are introduced in such a way that the rule becomes formally incorrect as a rule of a Chomsky-type generative grammar. (The proposed rule seems to be just a semi-formal rendering of an informal English statement on English and Chinese.)

c. any non-linguistic entity brought in from other disciplines (psychology, sociology etc.);

d. specific language learners and their actual learning behaviour.

What kind of language is to be used?

There are, of course, other problems that beset CA, both of a theoretical and a practical kind, but these four are the ones that I shall single out in the present paper.

1.3. On solving the problems in a new framework.

I shall propose a unified solution to the four problems within a recent conceptual framework, ***integrational linguistics***, which is intended as a framework for linguistics in general, not only for contrastive studies. In integrational linguistics, theories of language and theories of grammars are clearly distinguished; certain grammars are conceived as 'applied' theories that can refer to specific speakers and speech-events; heavy emphasis is placed on 'integrating' individual grammars with a theory of language; and special attention is paid to the question of interrelating linguistic and non-linguistic theories. These features of integrational linguistics should make it particularly suited as a framework for contrastive studies although it has been developed for linguistic studies of any type.

I shall characterize integrational linguistics only to the extent that is indispensable for the purposes of this paper. This means restriction to just one of its aspects, the conception developed for integrating different theories, which motivates the very name of integrational linguistics. Even so, much desirable detail will have to be omitted, and it will be unavoidable that fairly technical notions are characterized in a highly informal way. I shall indeed choose a deliberately informal style to bring out the essential points instead of burying them in technical detail.[20] My presentation should be sufficient, though, to show the relevance of integrational linguistics to CA by indicating a model in which the theoretical problems (1) to (5) receive a unified solution.[21]

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[20] For a more precise picture of various points of integrational linguistics, the reader will be referred to more technical papers.

[21] For an introduction to integrational linguistics, cf. Lieb (1977b) which also contains a bibliography of the relevant work done by Lieb and other authors. The framework includes a theory of grammars (Lieb 1974 and 1976b) and a theory of language, still incomplete (Lieb 1970; Lieb in prep. vols 4 and 5 will systematically present the morphosyntactic and semantic conceptions outlined in various sections of 1976b (cf. also forthcoming (a) and partly characterized in (1977a)). On theory integration and the status of linguistics in general, see Lieb (1976c), and, in particular, Part II of (1977b).

I am not, of course, claiming that previous models are completely inadequate for dealing with any of the problems (1) to (5). Still, the following points may be evident to anybody familiar with the literature on CA, given our previous discussion: (a) The *problem of the linguistic and the non-linguistic*, to the extent that it has been recognized in traditional CA, remains unsolved.[22] In particular, if we adopt a generative transformational framework, we run into the notorious difficulties of relating a grammar as a 'theory of competence' to whatever we may decide to understand by a 'theory of performance'. (See above, fn. 5.) (b) The *problem of concreteness* remains unsolved. In particular, if we adopt a generative transformational framework of the classical type, we find ourselves stuck with the notorious 'ideal speaker-listener in a completely homogeneous speech-community', who is about the last person we might wish for in a context of second-language learning. (c) The *problem of the general and the particular* may have received more attention in CA than the two previous ones but we are certainly far from having arrived at a generally accepted solution. (d) The *problem of the metalanguage* in its restricted form, apparently solved in a generative transformational framework, turns out to persist on closer analysis (see above, discussion of (4)). In its expanded form it has hardly been recognized.

In what may well be the best theoretical treatise on traditional CA, Di Pietro (1971 : 12) reminds us that 'an axiom well worth remembering is that a CA is only as good as the linguistic theory on which it is founded'. In the present paper, I shall be more concerned with demonstrating the adequacy of integrational linguistics for CA than with pointing out the shortcomings of other 'models'. While not a panacea for all previous ills, adoption of integrational linguistics may lead to a sounder type of CA that satisfies the general requirements put forward by Slama-Cazacu.

In the following Section 2, I shall characterize in an informal way my conception for integrating both linguistic theories and linguistic and nonlinguistic ones. Section 3 will then outline an 'integrational' format for contrastive analysis in which the five theoretical problems of Section 1 may be solved.

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[22] The general situation is neatly summarized by Kühlwein (1976 : 207) in his review of Alatis (ed.) (1970): "It is perhaps the greatest advantage of this volume to have shown without ambiguity the necessity of such an interdisciplinary way of looking at language phenomena. With equal clarity it shows, however, that we have up to now not yet been able to develop adequate conceptual and methodological tools which can cope with this integral view. We have not yet got a theory which is able to describe grammatical, anthropological, psychological and sociological components of language use in a unified way — and it is doubtful whether such a theory ... will ever be developed. Most contributions to this volume ... cannot show ... the ways in which the results of the respective investigations can be related to each other: within the framework of a formally consistent system".

2. Theory integration in integrational linguistics.

2.1. Grammars and theories of language: integration by presupposition.

We shall understand the term 'theory of language' in such a way that a theory of language is a theory that contains universal implications on languages but does not allow for any reference to grammars (understood as theories proposed by the linguist).

Obviously, this is not a definition, quite apart from the fact that the term 'theory' has been left unexplained. Still, our rough characterization seems to exclude theories of language as understood in generative grammar. A theory of language in our sense might contain a sentence of the form:

(6) Every language has sentences.

In a theory of language as envisaged in generative grammar, we would rather have sentences like, "Every language allows for a grammar such that there are non-blocked derivations beginning with the symbol 'S'".[23]

Consider a reformulation of (6) that brings out more clearly its logical properties. Let '*D*' stand for any natural language or any system of signs that is derivative on natural languages. Let '*f*' stand for any syntactic unit of a natural language. Obviously, the following is an equivalent reformulation of (6):

(7) For all *D*, if *D* is a language, then there is an *f* such that *f* is a sentence of *D*.[24]

Again, (7) is a sentence that could appear in a theory of language; in a much clearer sense than (6), it is a universal implication on languages. Henceforth, I shall take (7) as my example.

Let us now consider grammars of particular languages. We shall understand the term 'grammar' in such a way that a grammar of a language may be taken as a theory that contains sentences of the language but does not allow for reference to symbols used by the linguist in describing the language. Again, this is only a rough characterization, which, however, excludes generative grammars as formally construed in the theory of generative grammars: such grammars are algorithms for generating formal objects such as 'structural descriptions' which it is then necessary to interpret with respect to the natural language under discussion.[25]

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[23] For further discussion of this point, cf. Lieb (1975: Sec. 1.4).

[24] Strictly speaking, (7) and (6) are not completely equivalent since (6) but not (7) implies (or presupposes) existence of *several* sentences.

[25] For details, cf. Lieb (1974: Sec. 1). By deviating from the official conception of generative grammars, it may be possible to reconstruct a generative grammar in such a way that it is no longer excluded by our criterion (l.c. Sections 1.5f).

Take a specific language, say, English. We assume that any grammar of English contains a sentence of the form

(8) English is a language.

This seemingly trivial sentence is the decisive link for connecting a grammar of English and a theory of language. It is one of the shortcomings of generative grammars that they cannot formally accommodate sentences like (8). Such sentences should be included among the *key sentences* of a grammar because of their rôle in deductive processes that involve both the grammar and a theory of language. From (8) and (7), we directly obtain as a logical consequence:

(9) There is an *f* such that *f* is a sentence of English.

Clearly, we would like to have a sentence like (9) in any grammar of English.

Moreover, (9) should not be introduced as an independent assumption: it formulates a consequence of the fact that English is a language, and should be treated as such, i.e. (9) should be treated as a theorem derivable from (8) and (7) *in the grammar*. This requires that (7), a theorem of a theory of language, should be available for deductive purposes in the grammar itself. At the same time (7) must not be included among the theorems of the grammar because it does not specifically deal with English.

Our example is easily generalized. We thus arrive at a conception of a grammar as somehow including a theory of language.

In integrational linguistics, this idea is made precise. Both a theory of language and a grammar of a language are conceived as axiomatic theories. More precisely, they are 'abstract' axiomatic theories that may be applied to data via 'idiolect grammars' (cf. below, Sec. 2.5).[26] Taking grammars and theories of language as axiomatic theories, the desired relationship between a grammar and a theory of language can be formally defined as a relation of 'presupposition': a grammar *presupposes* a theory of language, in a technical sense. This means, very roughly, that some or all 'valid sentences' of the theory of language are included among the 'valid sentences' of the grammar but not among its axioms, definitions, or theorems. A 'valid sentence' of a theory is taken as, roughly, a sentence that may be used freely in proofs; this includes, in particular, the axioms, definitions, and theorems of the theory. On this conception, a grammar of English that contains (8) as an axiom would presuppose a theory of language containing (7); this sentence would appear among the valid sentences of the grammar; hence, (9) would be obtained as a theorem of the latter.[27]

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[26] In precisely which sense the term 'axiomatic theory' applies to grammars of languages and theories of language is spelled out in Lieb (1974: Secs. 2 and 3).

[27] For a formal account, including a definition of 'presupposes', cf. Lieb (1974: Sec. 3.4).

Actually, a grammar and a theory of language should be related even more closely than by the relation of presupposition. For a demonstration, we resume discussion of our previous example.

2.2. Grammars and theories of language: integration by formulation-in-terms-of.

Consider the logical status of the term 'sentence' a sused in (7). In (6) it might look as though 'sentence' denoted a simple set: the set of 'sentences'. (7) makes it clear that 'sentence' must be taken as a relational term: *f is a sentence of D*. Technically, the term 'sentence (of)' as it occurs in (7) denotes not a set of syntactic units of any language but a two-place relation between entities *f* and *D*, or set of ordered couples $\langle f, D\rangle$: the term denotes the set of couples $\langle f, D\rangle$ such that *f* 'is a sentence of' *D*, i.e. such that *f* and *D* satisfy certain conditions that would have to be spelled out in the theory of language.

If (9) is to be obtained by logical deduction from (7) and (8), the term 'sentence' must be understood in exactly the same sense in both (7) and (9): both in the theory of language and in the grammar of English, 'sentence (of)' denotes the relation between arbitrary *f* and *D* such that *f* 'is a sentence of' *D*. (9) also contains the term 'English'. This is a constant that does not occur in the theory of language at all but is only introduced in the grammar.

This example suggests the following idea. In a grammar of a language, the only undefined term specific to the grammar is a constant like 'English' that names the language (and, possibly, a constant for a system of the language if languages are not identified with systems). In speaking about the language (or its system) we use the grammar specific constants ('English') *in conjunction with* terms from the theory of language ('sentence'), formulating sentences like (9). We may, of course, define additional constants on the basis of these terms, but other than that there is no special terminology for the grammar.

It may be objected that we cannot do without grammar specific expressions that refer to the categories, syntactic structures etc. of the given language. Thus, we may wish to state that the set of English sentences is denumerable. We must then have an expression to refer to the *set* of English sentences, which is a specific syntactic category of English.

True enough, but this still does not force us to introduce a grammar specific constant to name that set. Given expressions like 'sentence (of)' and 'English', we make use of the following logical device. Let '*R*' stand for any two-place relation between entities *f* and *D*. Then:

(10) *Definition*. *R-of-D* = the set of all *f* such that *R* holds between *f* and *D* (such that $\langle f, D\rangle \in R$).[28]

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[28] For the logical status of 'R-of-D', cf. Carnap (1958: Sec. 33d).

As an example, we have:

(11) sentence-of-English = the set of all *f* such that sentence-of holds between *f* and English.[29]

Actually, (9) is logically ambiguous between the following two interpretations:

(12) a. There is an *f* such that $\langle f, \text{English}\rangle \in$ sentence-of.
b. There is an *f* such that $f \in$ sentence-of-English.

This example can obviously be generalized to a great number of cases: the set of phonemes of English, the set of nouns of English etc. are all categories that can be denoted in this way: by complex expressions of the form phoneme-in-English, noun-in-English etc. which are composed of a constant from the theory of language and a name of the given language.

We thus arrive at a conception on which a grammar of a language is *formulated in terms of* a theory of language in roughly the following sense. In speaking about the language, we use one or two grammar specific constants (names of the language and its system) in conjunction with terms from the theory of language, forming, if necessary, compound descriptive expressions as just explained or introducing additional constants by definition.

In integrational linguistics, this idea is made precise and, with a few modifications, adopted. A grammar of a language thus is to be *formulated in terms of* a theory of language in a precisely defined sense.[30] In this sense, it is implied that the grammar *presupposes the entire theory of language*. The grammar and the theory of language are thus integrated in a very close way.

So far, we have been speaking of grammars of entire languages. We shall now indicate how the internal variability of languages can be taken into account even in such grammars. Our proposals will imply that terms like 'sentence' should not be used in relation to entire languages but be relativized to 'idiolect systems'. This also means that expressions like 'sentence-of-English' are not needed; instead, we may have to introduce corresponding expressions in which 'English' is replaced by a constant or variable for 'idiolect systems'.

2.3. Accounting for language variability.

Let us adopt the following assumptions on languages. A natural language *D* is a set of individual 'means of communication'. Each means of communication is a set of abstract texts, and is homogeneous relative to the varieties of *D* (its dialects, sociolects, etc.), that is, only in its entirety can the means of communication belong to a variety of *D*. The varieties are subsets of *D*.

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[29] More briefly, sentence-of-English = the set of all sentences of English.

[30] Cf. Lieb (1974: Sec. 3.4), for a formal definition.

The elements of D will also be referred to as *idiolects* in D but this term is not to carry all its usual connotations. (In particular, an individual means of communication is *not* identical with the speaker's entire share of the language; this share is a *set* of means of communication).

Each means of communication C has a system S by which it is determined. There are also systems for the entire language D and for the varieties of D.[31] Such a system is an abstraction from the systems of individual means of communication. More specifically, given a set of means of communication, any system *for* the set is a construct of properties shared by the systems *of* all means of communication in the set.[32]

Traditionally, a grammar of a language is to be a 'theory', 'description' etc. of a (or the) system of the language. In keeping with this view I shall understand a grammar of a language or language variety D as a theory of D and a system for D. (Note that language varieties have been included).

Any system for D is to be based on common properties of systems of means of communication that belong to D. Thus, any grammar of D is ultimately concerned with such common properties.

This suggests the following form for the essential theorems of any grammar of D:

(13) For all C and S, if C is an element of D and S a system of C, then...

The variable 'D' might be replaced by 'English' but also by 'Standard British English' or any name of a dialect, sociolect etc. of English.

The part of (13) that follows after 'then' may be of any logical form whatever but must involve the system S. For instance, in a grammar of English we might have the following theorem:

(14) For all C and S, if C is an element of English and S a system of C, then there is an f such that f is a sentence of S.

This is a statement to the effect that in any system of any English idiolect, there are sentences.

We previously assumed that the term 'sentence', as a term of a general theory of language, denoted a relation between arbitrary syntactic units f and languages D. 'Sentence' has now been reintroduced in a new sense: as a name of a relation between syntactic units f and *idiolect systems.* We shall indeed abandon it in its former use, for the following reason. Terms like 'sentence' traditionally involve languages understood as systems. On our conception, no language is itself a system, and a system of a language is a construct of properties of idiolect systems. Thus, it is in connection with idiolect systems that the traditional terms are really needed.

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[31] I shall make a terminological distinction between systems *of* means of communication and systems *for* sets of means of communication.

[32] This very roughly indicates some of the general ideas that underlie the detailed formal theory in Lieb (1970), including the modification suggested in Lieb (1976b: Sec. 6.3; 1977b: Secs 1.3f; forthc. b.) See these references for the explication of the concepts just introduced. For a fuller view of idiolect systems, cf. Lieb (1977b, in prep. vol. I) and the work on which it is based (indicated above, fn. 21). It is remarkable that Nemser and Slama-Cazacu, in their proposal for 'contact analysis', should heavily emphasize the rôle of 'individual linguistic systems' in a sense which brings them close to our 'idiolect systems' (1970: esp. 116ff; cf. also Slama-Cazacu 1973). It is thus possible to reconstruct basic features of 'contact analysis' within our framework (cf. fn. 46, below).

In other words, we modify the presupposed theory of language. The modification requires that (7) be replaced as follows:

(15) For all D, if D is a language, then: for all C and S, if C is an element of D and S a system of C, there is an f such that f is a sentence of S.

That is, in all systems of idiolects in a language, there are sentences. (14), a theorem of a grammar of English, is obtained from (8) and (15), a theorem of a theory of language.[33]

By going back to systems of individual means of communication, we have a principled way of taking language variability into account. At the same time, a grammar of a language can be related to a theory of language in exactly the same way as before: the grammar is formulated in terms of the theory of language, which implies that the latter is completely presupposed by the former.

A grammar of a language variety is also to be formulated in terms of a theory of language. In addition, it may be formulated, or partly formulated, in terms of a grammar of a language to which the variety belongs. Ideally, any grammar of a variety of a language will at least *presuppose* a grammar of that language.

By formulating a grammar in terms of a theory of language, we make the latter available for deductions in the former. In this context it may be necessary to prevent a misunderstanding. Many theorems of a grammar are indeed obtained from the theory of language and the axiom or theorem stating that we are confronted with a language or language variety. But this is not generally true. There are axioms specific to the grammar, and many theorems that depend on them. For instance, *let* **D** *be a certain variety of English* and assume that the concept of phoneme makes sense in the presupposed theory of language.[34] Assume a grammar of $\mathbf{D}$. As an axiom or theorem specific to the grammar, we might have a sentence of the following form:

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[33] (15) may be understood as stating that the category of sentences exists in any language in the sense that the set of sentences is non-empty in any system of any idiolect of any language (cf. also (12b)). Contrary to a widely accepted presupposition, existence of a term in a theory of language does not imply existence of a corresponding category in all languages: We may have a term like '(is a) verb (of)' in the theory of language even if it is not true for all languages that there are verbs in the systems of their idiolects. After all, we may wish to formulate 'implicational universals' of the form: For all languages D, if for all systems S of idiolects in D verb-of-S is non-empty, then... Such universality statements are needed even if verb-of-S is empty for all idiolect systems S of some languages.

(16) For all C and S, if C is an element of D and S a system of C, then Phoneme-of-S = {/p/, /b/,...}.[35]

Note that (16) is an axiom or theorem *not a definition*: It is ruled out as a definition already by the fact that 'Phoneme-of-S' is a logically complex term, not a simple constant as would be required for the definiendum of a definition that is an identity. The term 'phoneme (of)' could be defined, if at all, only in the theory of language. (16) is an axiom or theorem of a grammar of $\mathbf{D}$ that *identifies* — correctly or incorrectly — the phonemes of any appropriate idiolect system S.

For integrating grammars and theories of language, or a grammar of a variety and of a language, we used formulation-in-terms-of and presupposition. How are we to relate grammars of different languages or language varieties?

2.4. Grammars and grammars: integration by conflation.

Suppose that we have two grammars, each of a variety of a different language, and we wish to formulate contrastive statements on the two varieties. Obviously, this is the archetypal case for contrastive analysis. Let us first try to gain some clarity about the form of such statements.[36] Consider the following example.

Let $\mathbf{D}_1$ and $\mathbf{D}_2$ be two varieties. Both grammars may be assumed as formulated in terms of the same theory of language. Thus, in the grammar of $\mathbf{D}_1$ we might have a theorem such as:

(17) For all C and S, if C is an element of $\mathbf{D}_1$ and S a system of C, then /p/ is a phoneme of S.

And in the second, either (18a) or (18b):

(18) a. For all C and S, if C is an element of $\mathbf{D}_2$ and S a system of C, then /p/ is a phoneme of S.
b. For all C and S, if C is an element of $\mathbf{D}_2$ and S a system of C, then /p/ is not a phoneme of S.[37]

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[34] '$\mathbf{D}$' is a constant (more precisely, an ambiguous constant), as opposed to the variable 'D'. Similarly, for other letters.

[35] Phoneme-of-S=the set of phonemes of S, cf. (10) and (11). '/p/' etc. are assumed as constants of the grammar that are defined by phonetic constants of the theory of language (cf. Lieb 1976b: Sec. 1.2, for a more systematic account).

[36] In the literature on CA, very little thought has been given to the question of what should be admitted as a contrastive statement.

[37] '/p/' is defined separately in the two grammars but by identical definitions depending only on phonetic constants of the same theory of language. Thus, there is no

The conjunctions of (17) and (18a), and (17) and (18b), could be taken as *contrastive statements* on $\mathbf{D}_1$ and $\mathbf{D}_2$, where (17) and (18a) yield a *positive* and (17) and (18b) a *negative contrastive statement*:

(19) a. (17) and (18a).
 b. (17) and (18b).

Contrastive statements may also be *mixed*; an example of this would be the conjunction of the sentences obtained from (17) and (18b) by adding, 'and /b/ is a phoneme of *S*'.

True enough, these are very simple examples but they clearly allow for generalizations. I shall not, however, attempt to formulate the generalizations, and I must leave it undecided whether they would cover all relevant cases.

The important fact about (19a) and (19b) is this: they are neither theorems of the grammar of $\mathbf{D}_1$ (in which no reference is made to $\mathbf{D}_2$) nor of the grammar of $\mathbf{D}_2$ (in which no reference is made to $\mathbf{D}_1$). Where do they belong?

We are here confronted with a major problem of traditional CA: the nature and place of contrastive statements, as opposed to the nature and place of statements restricted to single languages. This problem was briefly discussed in connection with (4), the problem of the metalanguage in its restricted form (above, Sec. 1.2). Integrational linguistics provides a third form of theory integration, by which contrastive statements can be assigned a place in a theory: integration by *theory conflation*.

The conflation of two 'compatible' theories is, roughly, a new theory whose axioms are the axioms of the two original theories (except for axioms in one theory that are definitions in the other).[38] This is different from presupposition, where the axioms of the presupposed theory lose their status as axioms.

The grammars of $\mathbf{D}_1$ and $\mathbf{D}_2$ may be assumed as 'compatible' theories (partly due to the fact that they have been formulated in terms of the same theory of language). Hence, their conflation again is a theory. This theory is obviously formulated in terms of the theory of language in terms of which the two grammars are formulated, and presupposes any theory that they do. Given (17) and (18a) or (18b) as theorems of the grammars of $\mathbf{D}_1$ and $\mathbf{D}_2$, respectively, their conjunction (19a) or (19b) is a theorem of the conflation of the two grammars.

The conflation, or some part of it that is essentially restricted to contrastive statements, is a natural candidate for a 'contrastive grammar'. How-

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equivocation in using '/p/' in both (17) and (18). (I am, of course, fully aware that many structural phonologists would have rejected a phonological theory that allows for 'the same phoneme' in different languages, but this is not the place to enter into a discussion.)

[38] For a formal account, cf. Lieb (1974: Sec. 3.4), where also the notion of 'compatibility' is defined.

ever, it may well be that the use of the term 'grammar' should not be extended to cover the conflation of grammars of varieties or languages, or any 'contrastive part' of such a theory.[39] For construing contrastive statements as theorems it is quite sufficient that the conflation of such grammars again is a theory.

Grammars of languages, or even varieties, do not take us down to individual speakers: the grammars are 'abstract' axiomatic theories. They are related to individual speakers and speech-events by becoming integral parts of grammars of specific means of communication.

2.5. Idiolect grammars. Non-linguistic theories.

An idiolect grammar is conceived as an axiomatic theory of an individual means of communication and a system of the means. However, the grammar is not an abstract but an 'applied' axiomatic theory. It has a part that is an abstract theory of the means and its system, and another part that includes reference to concrete speakers and speech-events: to persons who use the means of communication, and to corresponding speech-events. Strictly speaking, an idiolect grammar as an applied axiomatic theory is a theory of an idiolect, a system of the idiolect, one or more speakers of the idiolect, and specific utterances made by the speakers in using the idiolect. Obviously, there may be a great number of idiolect grammars that contain identical abstract theories of the same idiolect and system but differ in their application to speakers and utterances.[40]

An idiolect grammar again is to be formulated in terms of a theory of language. The grammar specific constants are names for the idiolect, the system, the speakers, and the utterances. Ideally, the idiolect grammar presupposes not only the theory of language but also grammars of the language and of the varieties to which the idiolect belongs. Thus, whatever is true of the idiolect and its system for general, language specific, or variety specific reasons, can be stated in the idiolect grammar. For example, assume an idiolect **C** and system **S** such that

(20) **C** is an element of **D**, and **S** a system of **C**.

Given an idiolect grammar that presupposes a grammar of the variety **D** of English, (20) and (16) together yield the following theorem of the idiolect grammar:

(21) Phoneme-of-**S** = {/p/, /b/,...}.

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[39] It was suggested already in Hamp (1968 : 144) that 'the term 'contrastive grammar' is probably a misnomer'.

[40] The concept of an applied axiomatic theory is formally defined in Lieb (1974: Sec. 3.1). Lieb (1976b) is a detailed investigation into idiolect grammars as applied axiomatic theories.

Again, there are axioms and theorems that are specific to the idiolect grammar in its system-related part.

The 'application part' of the idiolect grammar contains axioms that relate the idiolect or its system to speakers and utterances. In our assumed idiolect grammar we might have an axiom of the form:

(22) **V** is a normal utterance by $\mathbf{V_1}$ of **f** in **S**,

where '**V**' is the name of a certain sound-event, '$\mathbf{V_1}$' the name of a certain person, '**f**' denotes a syntactic unit of **S**, and '**S**' is understood as above.

In (22), the term 'normal utterance' is taken from the theory of language in terms of which the grammar is formulated. It may, however, be a constant that was taken over into the theory of language from a general theory of communication that the theory of language presupposes.

Generally, a linguistic theory, such as a theory of language or a grammar of a language, language variety, or idiolect, may presuppose non-linguistic ones. The relation of presupposition is transitive; hence, any non-linguistic theory presupposed by the theory of language is also presupposed by any grammar formulated in terms of that theory. Moreover, a grammar may presuppose non-linguistic theories that are not presupposed by the theory of language.

Theory integration by presupposition is, however, not generally sufficient for relating linguistic and non-linguistic theories. Consider the cases of (i) a theory of language change and (ii) a theory of language learning. In (i), a theory of language and a theory of physical time should be available for deductions, and in (ii), a theory of language and a theory of learning. There is an important difference, though, between the theory of language learning and the theory of language change. The former is a 'linguistic intertheory', a theory that belongs to a shared branch of linguistics and some non-linguistic discipline (e.g. psychology). The latter is not an intertheory — there is no shared branch of linguistics and physics to which a theory of language change could reasonably be assigned. There are general considerations (cf. Lieb 1977b, Part II, Sec. 2) to support the view that an intertheory does not presuppose its 'parent' theories but is an *extension* of each of them (contains them as parts); all axioms and definitions of the 'parent' theories are axioms and definitions of the intertheory, which may contain additional axioms and definitions. Thus, in (ii) the theory of language and the theory of learning are *coextended* by the theory of language learning, which is an extension of both (contains them as parts). In (i), the theory of language change, which is not a linguistic intertheory with respect to physics, should be taken as a *part* of the theory of language, which in turn *presupposes* the theory of physical time. Thus, axioms, theorems, and definitions of the latter are available in the theory of language change without becoming axioms, theorems, or definitions of the theory of language.

Conflation (of compatible theories) can now be recognized as a limiting case of coextension: the conflation of two compatible theories is a joint extension that does not add any new axioms or definitions.

This concludes our outline of relevant conceptions in integrational linguistics.

2.6. Summary.

For integrating different theories, both linguistic and non-linguistic ones, we considered four different possibilities: presupposition, formulation-in-terms-of, conflation, and extension or coextension. Formulation-in-terms-of implies presupposition, and conflation is a limiting case of coextension (assuming compatible theories).

Grammars of a language, language variety or idiolect were all assumed as formulated in terms of the same theory of language in roughly the following sense. In speaking about the language, variety, or idiolect, we use terms of the theory of language in conjunction with a name for the language, variety, or idiolect (and one of its systems). Assumptions were made that justify consideration of idiolect systems even in the case of languages and their varieties: it is properties of relevant idiolect systems that constitute a system for a language or variety. Thus, for formulating a grammar of a language or variety in terms of a theory of language, the latter must provide terms with which we can refer to the categories, units etc. of arbitrary idiolect systems.

Formulation-in-terms-of is defined in such a way that a theory formulated in terms of another entirely presupposes the latter, in roughly the following sense: All 'valid sentences' of the second theory are 'valid sentences' of the first but do not belong to its axioms, theorems, or definitions. In this way a theory of language is entirely presupposed by any grammar formulated in terms of it.

Ideally, a grammar of a variety of a language presupposes a grammar of that language, and a grammar of an idiolect in that variety presupposes a grammar of the variety. As the relation of presupposition is transitive, an idiolect grammar presupposes any theory presupposed by the variety grammar.

Grammars of different languages or varieties may be conflated. Contrastive statements may be obtained as theorems of such conflations.

Linguistic and non-linguistic theories may be related by presupposition; in particular, the linguistic theory (a theory of language, say) may presuppose the non-linguistic one (such as a theory of physical time). As a second possibility, we have coextension: both the linguistic theory (a theory of language) and the non-linguistic one (a theory of learning) are coextended by a theory (a theory of language learning) that is an extension of either theory. Coextension relates a linguistic and a non-linguistic theory that are extended by the same 'linguistic intertheory'.

Grammars of languages and their varieties and theories of language are taken as 'abstract' axiomatic theories that may be related to linguistic data via idiolect grammars conceived as 'applied' axiomatic theories. It should be obvious that grammars as they have now been characterized have no counterpart among generative grammars of any kind: a grammar of a language or language variety, let alone of an idiolect, may presuppose a theory of language or non-linguistic theory in a sense where this theory is actually incorporated into the grammar. Generative grammars, to the extent that they conform to a formally explicit theory of grammars, can possibly be understood as notational variants of integrational grammars of a very limited type.[41] However, for fully developed integrational grammars (that presuppose non-linguistic theories) appropriate generative grammars simply do not exist.

Let me emphasize that my outline of theory integration in integrational linguistics has been highly informal; for many questions, the reader will have to turn to the sources on which the outline is based. Even so, it should now be possible to characterize a format for CA in which the theoretical problems (1) to (5) can be solved.

3. An integrational format for contrastive analysis.

3.1. Simplified example of a second-language learning situation.

Consider a very simple and somewhat idealized case of second-language learning. The learner is a monolingual who has command of only a single means of communication **C** in his language $\mathbf{D}_1$. **C** may be assumed to belong to several varieties of $\mathbf{D}_1$ simultaneously: to a certain dialect, sociolect, style of speech etc. The learner is to learn a second language $\mathbf{D}_2$ in a teacher-controlled situation. This may be understood in roughly the following sense. The teacher has singled out a certain set of varieties of $\mathbf{D}_2$ (at least one such set), and the task of the learner is, ideally, to develop a means of communication that is a 'possible element' of each of the varieties. If, for instance, $\mathbf{D}_2$ is English and the varieties are Standard British, Formal, Oral, Upper Middle Class, the means of communication is to be a possible element of Standard British Formal Oral Upper Middle Class English, i.e. of the set of idiolects that is the intersection of these varieties. This means of communication is to be a *possible element* of the intersection in roughly the following sense: it is determined by a system such that, if we consider a system of an idiolect in the intersection, the two systems share all 'relevant' properties, i.e. all properties on which systems for varieties of English may be based.

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[41] Cf. Lieb (1974: Secs. 1.5f).

What is the place and form of contrastive linguistic studies in this situation?

3.2. Contrastive analysis based on grammar conflation.

Ideally, we would require at least two theories: one to account for the position of the learner's idiolect **C** in his language, the other to account for the place that the new means of communication is to occupy relative to the target language. The first theory would be a theory of the intersection $\mathbf{D}_1^*$ of the varieties of $\mathbf{D}_1$ to which **C** belongs, the second a theory of the intersection $\mathbf{D}_2^*$ of the varieties of $\mathbf{D}_2$ that were singled out by the teacher. Admitting the intersections as *derived varieties*, we may take the two theories as *variety grammars.*

Both grammars are to be formulated in terms of the same theory of language and may be assumed as 'compatible'. Hence, the conflation of the two grammars is again a theory, and is formulated in terms of the theory of language. In the conflation, contrastive statements on the two varieties can be derived, which may be positive, negative, or mixed.[42]

The conflation of the two grammars presupposes the entire theory of language. Ideally, the grammar of $\mathbf{D}_1^*$ would further presuppose a grammar of the language $\mathbf{D}_1$, and the grammar of $\mathbf{D}_2^*$ a grammar of D_2, both formulated in terms of the given theory of language. The grammar of $\mathbf{D}_1$ would presuppose theories of language types to which $\mathbf{D}_1$ belongs, similarly, for $\mathbf{D}_2$.[43] All these grammars and theories would be presupposed by the conflation of the grammars of $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$. This conception allows us to distinguish the following cases with respect to the contrastive statements derived in the conflation.

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[42] In my view, all such statements should be considered in contrastive studies: Harris's early suggestion "that it may prove possible to acquire a language by learning only the differences between the new language and the old (leaving those features which are identical in both to be carried over untaught)" (1954 : 259) was immediately qualified by reference to 'educational and psychological considerations' (l.c.). Still, it has been repeatedly advocated to exclude the positive ones, e.g., Di Pietro (1971 : 30); Bausch (1973 : 176) (who would admit them only in 'linguistic contrastive grammar'), or Zabrocki (1970) (who even proposes a distinction between 'contrastive' and 'confrontational' linguistics based on exclusion vs. inclusion of positive contrastive statements). Recently, attention has been drawn by Ebneter (1974 : 95f) to the importance of mixed contrastive statements; cf. already Nemser and Slama-Cazacu (1970 : 104): "The term "contrastive" is a partial misnomer since similarities between *T* and *B* are usually a prerequisite for interference". (Needless to say, previous authors did not refer to contrastive statements in precisely our sense; it usually remains unclear how exactly they conceive of the form of such statements).

[43] Language types will be taken as *sets X* of languages *D*. For the logical problems connected with the concept of type in linguistic typology, cf. Greenberg (1974).

(23) *General case*. The contrastive statement follows from:[44]
  a. two axioms or theorems of the grammars of $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$ of the form: $\mathbf{D}_1^*$ ($\mathbf{D}_2^*$) is a variety of $\mathbf{D}_1$ ($\mathbf{D}_2$);
  b. two axioms or theorems of the presupposed grammars of D_1 and D_2 of the form: $\mathbf{D}_1$ ($\mathbf{D}_2$) is a language;
  c. axioms, definitions, or theorems of the theory of language.

(24) *Typological case*. The contrastive statement follows from:
  a. [=(23a)];
  b. one or more axioms or theorems of the presupposed grammar of $\mathbf{D}_1$ of the form: $\mathbf{D}_1$ belongs to [language type] $\mathbf{X}_{1i}$, for $i=1,\ldots,n$; and one or more axioms or theorems of the presupposed grammar of D_2 of the form: $\mathbf{D}_2$ belongs to [language type] $\mathbf{X}_{2j}$, for $j=1,\ldots,m$
  c. axioms, definitions, or theorems of one or more presupposed theories of language types $\mathbf{X}_{1i}$, for $i=1,\ldots,n$, that do not include or depend on: $\mathbf{X}_{1i}$ is a language type; and axioms, definitions, or theorems of one or more presupposed theories of language types $\mathbf{X}_{2j}$, for $j\}1,\ldots,m$, that do not include or depend on: $\mathbf{X}_{2j}$ is a language type.

(25) *Language specific case*. The contrastive statement follows from:
  a. [=(23a)];
  b. axioms, definitions, or theorems of presupposed grammars of $\mathbf{D}_1$ and $\mathbf{D}_2$ that do not include or depend on (23b) or (24b).

(26) *Variety specific case*. The contrastive statement follows from axioms, definitions, or theorems of the grammars od $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$ that do not include or depend on (23a).

In the general case, a contrastive statement can only be positive, for obvious reasons; in all other cases, it can be either positive, negative, or mixed.

In relating a contrastive statement to statements on language learning we may have to consider not only its type (positive, negative, or mixed) but also its relation to the four cases (23) to (26).

Statements on the learning of languages are provided by a theory of language learning that is presupposed by both grammars, hence, by their conflation. This theory is an extension of the theory of language in terms of which the grammars are formulated, and of an appropriate theory of learning.

Ideally, the theory of language learning will contain theorems on the effects of language contrasts on second-language learning (for instance, classical 'interference' assumptions would be reconstructed as such theorems). Theorems of this kind would have to be conditional, i.e. the effects would have to be assumed for learning situations of certain types. Also, many theorems should be probabilistic. Even so, the theorems would have the form of universal statements. It is one of the main problems with traditional CA that its assumptions on the effects of language contrasts were not properly conditionalized; and much later criticism can be understood as due to this fact.[45] Of course, proper conditionalizing requires empirical research; all I have been able to do here is to formulate the problem.

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[44] That is to say: the statement can be derived in the conflation from the following set of sentences without introducing any other non-logical valid sentences of the conflation, and all sentences of the set are necessary for the derivation.

Whatever the precise theorems on language learning, they are all available in the conflation of the grammars of $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$ since either grammar presupposes the entire theory of language learning. Moreover, if the grammar of $\mathbf{D}_2^*$ also presupposes a grammar of $\mathbf{D}_2$ and theories of relevant language types, we may have special theorems on the learning of languages of a $\mathbf{D}_2$-type, or just of $\mathbf{D}_2$. All axioms and theorems on language learning can now be used in the conflation for deriving theorems on the effects that contrasts between the two varieties — in the last analysis, between systems of their idiolects — have in a learning situation as characterized in Sec. 3.1.

We still have to relate the conflation of the grammars of $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$ to the concrete language learner. Ideally, this would be done by formulating a grammar of the means of communication **C**, a system of **C**, the learner, and relevant utterances. The grammar is formulated in terms of the theory of language, and presupposes the conflation of the grammars of $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$ (which should be equivalent to presupposing them separately). The grammar contains a theorem corresponding to (20):

(27) **C** is an element of $\mathbf{D}_1^*$, and **S** is a system of **C**.

Thus, all theorems of the conflation that were formulated for arbitrary elements of $\mathbf{D}_1^*$ and their systems directly apply to **C** and **S**. This holds, in particular, for any theorem concerning the influence that contrasts between the systems of idiolects in $\mathbf{D}_1^*$ and $\mathbf{D}_2^*$ exert on any learner of $\mathbf{D}_2^*$ who has a $\mathbf{D}_1^*$-linguistic background.

As pointed out above, such theorems should be assumed as requiring specific properties of the learning-situation. In particular, it may be a learner of a special type that is required. The speaker of **C** may be characterized as such a learner by special axioms in the application part of the grammar, in particular, by psychological assumptions such as axioms on the speaker's general memory capacity.

In addition, there may be special requirements on such learner-independent factors as the teacher. Corresponding assumptions can no longer be formulated in the grammar.

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[45] James (1971) summarizes the arguments against traditional CA in nine points. Of these, at least the following ones seem to concern insufficient conditionalizing: 1, 2, 6 to 9.

They can be dealt with, however, via axioms or theorems of some other theory that is 'compatible' with the grammar of **C**. In this case, we may consider the conflation of such a theory with the grammar. Ultimately, the consequences of contrastive statements for a concrete learning-situation can be fully established only in the conflation of an idiolect grammar with other theories on concrete factors of the situation.[46]

Assuming such a format for contrastive studies, can the theoretical problems of Sec. 1.2 be solved?

3.3. Solution to the theoretical problems.

On our conception of CA, the theoretical problems (1) to (5) have the following solutions.

The problem of the linguistic and the non-linguistic is solved by theory presupposition and coextension. Relevant non-linguistic theories are presupposed by a general theory of language, which then is presupposed in its entirety by grammars of diminishing degrees of generality. Or a non-linguistic theory (e.g. a psychological one) is related to a linguistic one (e.g. a theory of language) via an 'intertheory' (a psycholinguistic one) by which the two theories are coextended. The intertheory may again be presupposed by other linguistic theories. Theoretical frameworks for 'psycholinguistic' and similar 'mixed' consequences are provided by extensions of the theory of language in terms of which grammars are formulated.

The problem of concreteness is solved by theory presupposition and conflation and by the conception of an idiolect grammar as an applied axiomatic theory. Contrastive statements are obtained as theorems of the conflation of two or more grammars (of varieties rather than languages). The conflation is then presupposed by a grammar of an idiolect of the learner such that the idiolect belongs to one of the varieties in contrast and the target is one of the remaining varieties. Axioms of the idiolect grammar can be used to introduce special linguistic and non-linguistic assumptions on the learner. Thus, the idiolect grammar is a framework for deductions that combine contrastive statements with statements on the learner and can be used in explanatory or predictive arguments. However, certain assumptions on the learning-situation can only be taken into account in the conflation of the grammar with other theories on concrete factors of the situation.

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[46] Using idiolect grammars of the learner, and their conflations with other theories, agrees with a basic feature of 'contact analysis', insistence on "the fundamental role of ILS [individual linguistic systems, H.L.] and IVE [individual verbal events, H.L.] in the language-learning/-teaching process" (Nemser and Slama-Cazacu 1970 : 117). Our analysis supports the view that CA can only *contribute* to an analysis of a concrete learning-situation. Thus, it is quite compatible with the position that CA covers only certain of the factors that would have to be considered in 'error analysis'. At the same time, it does not construe any dubious alternative between 'error analysis' and CA. (I cannot here pursue any further the much discussed topic of the relations between CA and error analysis. For a recent discussion, cf. Barrera-Vidal and Kühlwein 1975: Sec. 6.5). Moreover, our conception easily accommodates the view that the learning of the target proceeds by a sequence of 'approximative systems'. The theory of language-learning may require a sequence of pairs $\langle C_i, S_i \rangle$ such that C_i, while not belonging to any language, is analogous to an idiolect in a language, and S_i is a system that determines C_i. The contrastive point of view would then be extended to include $\langle C_i, S_i \rangle$. (For a formal attempt within a generative framework, cf. Kohn 1974, 1976.)

The problem of the general and the particular is solved by theory presupposition and formulation of one theory in terms of another. A grammar of a variety of a language (analogously, of a language) is formulated in terms of a theory of language. Ideally, it presupposes a grammar of the language and theories of the types to which the language belongs; the grammar and the theories are formulated in terms of the same theory of language as the variety grammar itself. Given the conflation of two variety grammars (analogously, language grammars) as a framework for contrastive statements, certain contrastive statements can be singled out as due to the theory of language (23); others as due to typological theories (24); and others as due to the language grammars (25).

The problem of the meta-language: *expanded form* (which includes the problem in its restricted form) is solved by assuming an idiolect grammar that is formulated in terms of and presupposes theories as indicated before. The metalanguage is automatically provided as the 'total language' of the idiolect grammar, i.e. of a certain applied axiomatic theory. If the idiolect grammar has to be conflated with other theories, the metalanguage results from the 'amalgamation' of the total language of the idiolect grammar and the languages of the other theories.

These remarks must remain abstract as long as such terms as 'total language' and 'amalgamation' have not been explicated, and the conceptions of theories and theory integration been made more precise. Actually, the problem of the metalanguage has received a detailed solution for idiolect grammars and the presupposed linguistic theories.[47] This solution is too technical to be characterized within the limited space of this paper. I can only give a few informal hints.

The total language of an idiolect grammar — and the axiomatic language of any presupposed linguistic or non-linguistic theory — is based on a 'formalized system of logic' or a 'natural language reading' of such a system, i.e. on a regimented form of a natural language variety that is completely explicit as to its logical properties. All sample theorems in the present paper, beginning with (7), were given in a regimented form of a (written) variety of English.[48]

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[47] In Lieb (1974: Secs. 2 and 3), and Lieb (1976b).

Using such a format for the language in which a linguistic theory is formulated, we obtain a metalanguage (with respect to the subject matter of the linguistic theory) that is formally well specified and logically completely explicit. Moreover, it allows for separation of logical and non-logical (descriptive) components; among the latter, it is possible again to distinguish between components that belong to different theories. It is this possibility that can be exploited in developing a concept of theory integration.

Even if the four theoretical problems have been solved, there are many questions concerning CA that have not been touched upon. I shall briefly indicate a few, at the same time pointing out limitations of the present paper.

3.4. Further problems.

Some readers may have felt that I used the word 'ideally' rather too often. I have indeed been more concerned with characterizing a framework for CA than with the unavoidable limitations of actual research projects. Idealizations were used only to bring out more clearly essential aspects of the framework but may still entail problems that should be followed up.

It may also seem that the problems connected with axiomatic theories were not sufficiently recognized. After all, are we to wait for complete axiomatic theories of language, complete axiomatic grammars, or, even worse, complete axiomatic theories in psychology, sociology etc. until contrastive studies can be undertaken in the proposed framework? Questions of this kind are usually motivated by the belief that axiomatic theories are optional reformulations of well-developed theories that already exist in non-axiomatic form. This traditional belief is largely incorrect: axiomatic theories can be formulated at any stage of theory construction; they do not require existence of non-axiomatic theories; and they may have any degree of comprehensiveness relative to their subject matter. It has to be admitted, though, that these questions deserve much more consideration than they could be given here.[49]

No systematic attempt has been made to relate the proposed framework to generative grammar or to other frameworks used in CA. In particular, a detailed comparison of integrational linguistics with generative grammar would have been unfeasible in the present context. The two following claims should be justified, though.

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[48] We frequently introduced them by phrases like 'a sentence of the form' (cf. (8)), thus allowing for analogous sentences in other regimented forms of the same or other languages, or for corresponding formulae in a formalized system of logic.

[49] For further discussion, cf. Lieb (1974: Secs 3.3 and 4), and in particular (1976d).

(a) Despite certain attempts in this direction, generative grammar has not developed anything to match our conception of theory integration: concepts like theory presupposition, conflation, and formulation of one theory in terms of another have simply not been defined.

(b) There is no analogue to integrational grammars in our sense that presuppose non-linguistic theories or linguistic intertheories, and to idiolect grammars understood as applied axiomatic theories.[50] Such grammars are contrary to one of the most persistent patterns of thinking in generative grammar, the ill-conceived distinction between 'competence' and 'performance' and the conception of grammars as 'theories of competence'.[51]

If generative grammar is used as a framework for CA, both (a) and (b) seem to preclude any systematic solution to the theoretical problems (1) to (5).

In concentrating on these problems, we left undiscussed all problems of practical method. Even important theoretical problems of CA were not considered, such as the status of CA as a discipline.[52]

Another theoretical question that should be dealt with concerns the rôle of semantics in CA, which is usually discussed in connection with the problem of the 'tertium comparationis': what is it that two languages should be compared or contrasted for? Both problems can be discussed within the framework of integrational linguistics but only a few hints can be given here.

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[50] See also above, end of Section 2.6.

[51] I am not, of course, rejecting all distinctions along these lines. Even in our concept of an idiolect grammar, the distinction between a system and its use is accounted for by positing two different parts of the grammar: an 'abstract' theory of the idiolect and its system (dealing, for instance, with sentences not utterances), and an 'application part' that introduces reference to specific speakers and utterances.

[52] There is considerable confusion and divergence of opinion concerning this question. Is CA a discipline at all or just a 'method' or an 'approach' (Ferguson 1968 : 101)? Cf. already the critical remarks in Hamp (1968 : 138f), based on a list of different names for CA, which also persist in later literature. Bausch (1973 : 167) proposes a regularization of the terminology. If CA is a discipline, what is its systematic place, in particular with respect to 'applied linguistics' and 'theoretical linguistics'é Nickel (1975 : 39) argues for 'Contrastive Linguistics' both as 'a theoretical discipline' and as 'Applied Contrastive Linguistics'. Slama-Cazacu (1974 : 236) rejects the adjectives 'theoretical' and 'applied' in combination with 'contrastive linguistics', assigning contrastive linguistics as a whole to applied linguistics. (But again, the status of applied linguistics as a whole remains controversial in the literature). These questions can probably be tackled along the lines of Lieb (1976a) but this would require a separate study.

First, a negative point can be made. If two grammars are both formulated in terms of the same theory of language, we may have contrastive statements in their conflation that do *not* involve meanings and may still refer to any formal aspect of the relevant idiolect systems (not only to phonological ones, where this is usually seen as unproblematic): the terminology for such statements exists in the theory of language.[53] Such a position does not agree with recent opinions concerning the 'tertium comparationis'.[54] Of course, much more thorough discussion would be needed to justify our position.

Secondly, a positive point can be made concerning the place of semantics in CA. Integrational linguistics includes a theory of language by which sentence meanings are a function of morpho-syntactic surface structure.[55] On this conception, we have the following point of comparison for contrastive studies: how are the sentence meanings obtained from surface structures in different languages? While not the only important point of comparison, this is certainly a fundamental one. The form it takes in integrational linguistics is in partial agreement and partial disagreement with recent trends in CA.

On the one hand, there has been a tendency to abandon syntactic 'deep structures' in favor of 'syntactic-semantic' or purely 'semantic' structures.[56] This agrees with the suggested point of comparison in providing for meanings as implicitly related to syntactic surface structure.

However, this relation is conceived in the literature along the lines of generative semantics; syntactic surface structure does not play an independent rôle. The importance of surface structure is rarely emphasized in more recent theoretical writings on CA.[57] In taking sentence meanings as a function of morpho-syntactic surface structure, we assign an essential rôle to surface structures and do away with all sorts of 'deep structures', whether syntactic,

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[53] Further terminology may be provided by other linguistic theories that are jointly presupposed by the two grammars.

[54] Cf. for instance, Corder (1973 : 255): "It looks, therefore, as if in the present state of linguistic knowledge, between the message and its physical expression in sound, there is a fundamental lack of common categories and relations available for really adequate comparison between the two languages. Meanwhile we shall have to rely on 'suggestive' parallels and partial, unrigorous comparisons". In this context, cf. also above, fn. 33, and discussion of (16): we may have a single concept in the theory of language ('phoneme') that covers a different reality in each language.

[55] For details cf. Lieb (1976b: Secs. 4 and 5.1); and Lieb (in prep).

[56] Cf. the authors listed in fn. 11 as supporting a 'generative semantics type grammar' or a 'semantically based' one. Typically, Krzeszowski proceeds from 'syntactic-semantic' deep structures in (1971) to purely semantic structures in (1972) and (1973).

[57] Explicitly, by Kufner (1973 : 27): 'Wenn die Kontrastive Grammatik ihre Aufgabe als Vorbereitung für die Pädagogische Grammatik erfüllen soll, dann muß sie sich zunächst mit der Verschiedenheit der beiden Oberflächenstrukturen beschäftigen'. Cf. also Dardjowidjoja (1974).

syntactic-semantic, or purely semantic.[58] I would indeed submit that concepts of deep structure are, at best, superfluous for CA[59] but this again is a point that cannot be followed up in the present paper.

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[58] In traditional generative terms, our approach to sentence meaning would be analogous to conceptions in 'interpretive semantics'. There has recently been a tendency in that school to base semantic interpretation exclusively on surface structures of the type provided by Chomsky's 'trace theory' (cf. Lightfoot 1976 for discussion and references). These structures would not yet be surface structures assumed in integrational linguistics (cf. Lieb (1977a) for discussion); and syntactic deep structures continue to figure in the new approach.

[59] Similarly, Kufner (1973 : 27).

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A FUNCTIONAL AND CONTRASTIVE ANALYSIS OF ATTRIBUTIVE ADJECTIVES ENDING IN *-ANT* AND IN *-ENDE* IN FRENCH AND DANISH, RESPECTIVELY*

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1. Subject, aim and background material of the paper

In contemporary French and Danish there exist forms ending with *-ant* and *-ende*. In grammars, these forms are described in the chapters dealing with the syntax of the verb. It is said that they can be used as participles and as verbal adjectives, i.e. as attributive adjectives or as predicative adjectives. I shall examine what is traditionally called the attributive uses of these forms.

The translation of these attributive adjectives from Danish into French presents some difficulties. Numerous oddities of translation are to be found even at the upper levels of Institutes of Higher Education in Denmark. Below I shall give examples of major types of not quite acceptable translations found. As it is one of the aims of this paper to try to understand why the errors are made, the irregularities will not be fully commented upon immediately. In this section, I shall only give some Danish sentences and some not quite acceptable translations, and show in what way these translations might be considered rather odd.

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(1) The sentence *han gjorde en afvaergende handbevaegelse* (which in the wider Danish context meant *he made a gesture to keep* [*him*] *away*) was found translated into "il fit un geste repoussant" (which may correspond to *he made a repulsive gesture* in English).[1] Although the French translation is syntactically correct, it cannot be said to be the appropriate translation of the Danish sentence. A possible French translation would be *il fit un geste pour* [*le*] *tenir à distance*.

(2) The Danish *de arbejdende kvinder* (which, in isolation, may mean (a) *the women belonging to the wage-earning class* or (b) *the women who are working at present*), was translated into "les femmes travaillantes" (lit. the women working). As a translation of the meaning (a), the French translation given might puzzle some Frenchmen because the attributive adjective *travaillant*(*e*) is not frequent in present-day French. Depending upon the context, it might seem advisable to translate the Danish example into *les femmes qui appartiennent à la classe des salariés*. As a translation of the meaning (b), we shall see below the reason why the French translation found cannot be used. A possible translation would be either *les femmes qui travaillent* or *qui sont en train de travailler*.

(3) The Danish *en leende pause* (which may mean *a pause full of laughter* or *a pause during which everbody laughs*) was translated into "une pause riante" (lit. a pause laughing). This translation might be considered undesirable because the adjective *riant(e)* is usually used only with such nouns as *visage* (*face*), *yeux* (*eyes*) and synonyms, *nature* (*nature*), *prairies* (*meadows*) and synonyms, *idées* (*ideas*) and synonyms. Possible translations would be *une pause pleine de rires, une pause où tout le monde s'esclaffa, une pause où chacun manifesta sa gaité*, etc.

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[1] Odd translations of Danish examples into French are given in inverted commas. These are also used for French and Danish elements which could be considered odd in some way or other. We have tried all through to give English equivalents of the quoted examples. This is done in brackets. Such equivalent translations are sometimes literal translations, (lit.). They are given in order to mark the oddity of the French or Danish examples. The brackets may contain an English translation or equivalent alone, or French and English equivalents of a Danish example. They are separated by an oblique stroke:/. For much of the material given in brackets, the translations given are to be considered approximations because of lack of context. As this article was written for non-Danes, I have decided not to give Danish equivalents of the French examples.

(4) The Danish *et triumferende öjekast (a triumphant glance)* was translated into "une oeillade qui triomphait" (lit. a glance which triumphed). This French translation (and perhaps also the English literal translation of it) has a somewhat peculiar ring. A correct translation would have been *une oeillade triomphante*.

It appears furthermore that French people hesitate when having to decide as to what might be called Agreement or Concord of a given *-ant* form as in, for example, *une voix vibrant(e) de résolution (a voice vibrating with resolution)*.

In this paper, I propose to examine some of the problems connected with these attributive adjectives by first summarizing and commenting upon what some current (and I suppose representative) grammars have to say on this topic (§ 2).

This should enable us to see that it would perhaps be preferable not to describe the present participle and its attributive uses together, in the chapter of the grammar dealing with the syntax of the verb.
This survey should also enable us to see that the translation deviations and the hesitations of French people mentioned above are perhaps due to the descriptions given at present in grammars.

The aim of this paper is to try to describe how the elements ending in *-ant* and in *-ende* are used as attributive adjectives in contemporary French and Danish. Consequently, this paper should be considered an attempt to take into account the meaning of these forms when they determine nouns. It should also be considered an attempt to link grammar and dictionary.

I have chosen to make this description within the framework of André Martinet's functional theory in order to determine whether this theory can be applied to a contrastive analysis.

It is generally acknowledged nowadays that contrastive analysis may improve the teaching of foreign language. I have chosen to make a 'non-oriented' analysis, i.e. I shall first describe the use of the *-ant* attributive adjective (§ 3), then that of the *-ende* attributive adjective (§ 4). I shall not describe here what is traditionally called the 'apposition', let two French example suffice: *et les flammes montainent tout droit, rassurantes, dans l'air immobile* (Roblès, E. 1974 : 54) (lit. and the flames rose straight up, calm(ing), in the air) and *c'est cette crise nullement neuve, parfois dormant et couvant des siècles* (Morin, E. 1965 : 113) *(it is this crisis, far from being new, sometimes sleeping and smouldering for centuries)*. This procedure gives us the possibility of regrouping similarities as well as differences in the use of these attributive adjectives in the two languages (§ 5). Although it has not been my sole aim to try to improve teaching practices on this topic, I have nevertheless kept in mind students of French in Denmark.

I have based the article on the data of a French corpus of about 8,000 pages, and of a Danish corpus of about 4,000 pages, taken from contemporary writers, journalists and scholars. Most of the examples of *-ant* and *-ende* forms given here are taken from the approximately 1,000 examples per language I gathered in the corpora. A few were constructed with my French and Danish interlocuteurs. I also quote some adjectives found in dictionaries.

I have also sought to elicit the reactions of eight French academic people (four living in Denmark, four living in France) and of four Danish academic people. I have found that there is a risk of over-influencing people when they are made conscious of the fact that they are being interviewed about linguistic phenomena. The answers people give when asked whether a particular sentence is acceptable or not may not always correspond to their linguistic behaviour in normal situations. I have endeavoured, therefore, to observe their reactions in more or less spontaneous conversations.

With regard to the descriptions given in grammar books, I have selected as references M. Grevisse (1964), K. Togeby (1965) and J. Pedersen *et al.* (1970). These three grammars are being used by students of French at Institutes of Higher Education in Denmark. For Danish I have chosen to refer to P. Diderichsen (1946) and to Aa. Hansen (1967), which are the grammars usually consulted by Danish students of French. I have also used various dictionaries, which will be mentioned as we proceed.

Finally, I should like to say that the translation of this article made it clear to me that the often repeated theoretical point of view that 'translation is impossible' is very nearly true, because when translating we do not only translate meaning, we also have to translate conventions. When translating this article from the French language and conventions into English for international readers, it was difficult for me to decide whether I should readjust the whole article and adopt a current Anglo-Saxon structuring system of numbers (i.e. 1., 1.1., 1.1.1., 1.1.2., etc.) or whether I should retain my original system which contained only a few indications of structuring according to prevalent French tradition. Presuming that the English article would also be read by people who are used to reading French articles, I have chosen to use a mixed approach. I have endeavoured to mark the presentation of the different items in such a way that references are facilitated.

As to formal definitions expressed by means of symbols, the reader should not expect to find these here. In this respect I should like to refer to an article written by Michael J. Reddy, in which he says (1969 : 243) 'The idea that human language, or any adequate model thereof, has a mechanism specifying some strings as *formally* correct and others as formally incorrect *on the basis of the way in which they connect concepts* mistakes the very nature of human knowledge and communication'.

In passing, I shall add to this statement that not only does the idea mistake the very nature of human knowledge and communication, but it ought to be taken with a grain of salt. First, it can certainly not be said to apply to all situations of linguistic communication — we need only think of the difference between written and oral communication and, also, of all that happens when we, in given situation or context 'play with language' for example. Second, the idea can certainly not be said to apply to all elements in language in its broadest sense — we need only think of all the neologisms and transfers from class to class that happen constantly in given context or of all the cases where we can choose between several ways to communicate our linguistic needs. And third, correctness and incorrectness can only be conceived of if there exists one and only one linguistic standard or norm, but *language changes because it functions* and such a standard does not exist — it is then, as regards some linguistic elements nearly impossible to give formal rules.

2. Grammatical works consulted.

2.1. General descriptions found.

I shall now quote and comment upon the contents of the grammars mentioned above.

The explanations given in these grammars often correspond to one another by and large. In order therefore to avoid too many translated citations from the five grammars selected, I have chosen in the following to quote the grammar of Grevisse when what he writes corresponds in the main to what is found in the other grammars cited. I shall then quote, in brackets, the chapters in which the corresponding explanations can be found in the other grammars. I have also chosen sometimes not to give translated quotations in inverted commas, but to render, roughly, what the grammarians cited have said about a special item. I shall also then quote, in brackets ,the chapters in which the explanations can be found in the different grammars.

Generally speaking, as has been mentioned on page 39, the difficulties seem to arise from the fact that the forms ending in *-ant* and *-ende* are generally described together in the chapter dealing with the syntax of the verb. In addition, it is usually implied that they can *at one and the same time* assume the verbal function *and* the adjectival function in a given sentence. Diderichsen, P. is the only grammarian cited who emphasizes that 'the participles cannot generally have both the verbal and the adjectival function at one and the same time' (1946 : § 27c).

The reader may be further reminded of the remarks of Otto Jespersen: 'in each separate case in which the word is used in actual speech it belongs definitely to one class and to no other' (1924 : 62).

a. It has been said about the two participles that 'The participle is the adjectival form of the verb: it participates in the *nature* (my italics) of the verbs and in that of the adjective' (Grevisse, M. 1964: § 766; Diderichsen, P.

1946: § 27c; Hansen, Aa. vol. 3, 1967: 97). And it has been stated that 'as an adjective, the present participle has the value of a qualifier (however, it retains something of the *nature* (my italics) of the verb)' (Grevisse, M. 1964: § 769; Hansen, Aa. vol. 3, 1964 : 99).

b. An artificial distinction between the 'verbal adjectives' and the other adjectives is created by attributing to them verbal characteristics. It is sometimes asserted that they can be used in an active sense, a passive sense or a sense which is neither active nor passive. Examples like *ombres flottantes* (*floating shades*), *couleur voyante* (*glaring colour*), *laesende ung pige* (*jeune fille qui fait des études* ou *qui lit*/*young girl who studies* or *who reads*), etc., are quoted (Grevisse, M. 1964: § 770; Togeby, K. 1965:§ 636; Diderichsen, P. 1946:§ 27a; Hansen, Aa. vol. 3, 1967:§97 - 99).

c. The grammarians cited try, then, to differentiate the adjectives from the present participle by saying that they express 'a *state* (my italics) without limitation in time' (Grevisse, M. 1964: § 772; Pedersen *et al.* 1970: § 153.2.; Diderichsen 1946: §27a; Hansen, Aa. vol. 3, 1964: 99), whereas the present participle is said 'to express *action*' (my italics) (Grevisse, *ibid.*; Pedersen *et al.*, *ibid.*; Diderichsen, *ibid.*; Hansen, *ibid.*)

d. As for French, it is said that 'As an adjective, the present participle ... agrees in gender and in number with the noun to which it refers either as an attributive adjective or as a predicative adjective' (Grevisse, M. 1964: § 769; Togeby, K. 1965: § 632; Pedersen, J. *et al.* 1970: 153.1.).

Togeby, K. 1965) says in § 632 that 'the verbal adjective and the present participle differ from one another by the fact that the verbal adjective is an adjective proper which agrees in gender and number'.

e. French grammars draw up a partial or complete inventory of 'verbal adjectives' that are distinct from the present participle through their orthography. This refers to forms like *adhérant*/*adhérent*, *communiquant*/*communicant*, *fatiguant*/*fatigant*, etc. (Grevisse, M. 1964: § 771; Togeby, K. 1965: § 632; Pedersen, J. *et al.* 1970: § 153.2.).

These statements raise the fundamental question whether all the *-ant* and *-ende* forms can be used as attributive adjectives or, in other words, whether all these forms are elements which can be regarded as possible dictionary entries.

They raise the further question whether the concepts of *state* without limitation in time and that of *action* seen above are adequate criteria. According to what has been quoted above (cf. a., b., and c.) the forms ending in *-ant* and *-ende* are to be considered 'verbal', i.e. belonging to the verbal class when they express *action* — and they are to be considered 'nominal', i.e. belonging to the class of nominals when they express *state*. In the following, I shall use the terms 'verbality' for 'action' and 'nominality' for 'state'. I shall return to these questions later on, but in this respect, I can mention that the student who translated ***et triumferende smil*** (cf. p. 39, ex. 4) into "une oeillade qui triomphait" explained his translation by saying that, in his opinion 'a smile was to be considered a state limited in time', and accordingly he did not dare to use the form *triomphant*. It was impossible for me to disagree with him on this point.

This example of odd translation shows furthermore that adjectives in *-ant* cannot be said to be equivalent to a relative clause in all cases. This can apply to *-ende* adjectives also.

Examples of this type and others mentioned on p. 38 made me want to try to tackle the problem from a different angle.

2.2. Can all *-ant* and *-ende* forms be used as attributive adjectives?

Grevisse does not take the problem into consideration.

According to Togeby, K. (1965: § 942), all the *-ant* forms are usable. He adds in this paragraph, to be found in the chapter on word formation, that 'even as purely *nominal* (my italics) derivations, the *-ant* forms seem to be *more verbal* (my italics) than other derivations'. He then mentions forms like '*admirant* — *admiratif* — *admirateur*' (*admiring* — *admiring* — *admiring*). It is however difficult to understand why he quotes the form *admirant* in this section on word formation, '*Adjectival* suffixes' (my italics) (p. 812), because there exists no adjective 'admirant' in present-day French — i.e. there exists no dictionary entry 'admirant' — whereas there exist entries for adjectives like *souriant* (*smiling*), *reconnaissant* (*grateful*), *marquant* (*prominent, outstanding*), etc.

It is also difficult to understand what Togeby means when he uses the comparative 'more verbal' to describe the *-ant* suffix. It is not to be said whether he means that adjectives ending in *-ant* 'express more action' than adjectives ending in *-eur* and *-if* for example like *flatteur* (*flattering*) which is formed from the verb *flatter*, but whose ending is not *-ant*. The same question could apply to an English adjective like *expressive* (*éloquent, expressif*) (from the verb *express/exprimer*), for which it is difficult to say that it 'expresses less action' than an adjective like *admiring* (from the verb *admire/admirer*). And besides, there are cases for which we cannot say whether the *-ant* and *-ende* forms express 'action' or 'state', like i.e. *dormant* (*sleeping*) and *sovende* (*dormant/sleeping*).

According to Pedersen J. *et al.* (1970: § 153.2.), few *-ant* forms can be used as adjectives, but they do not state which of them. They observe in the same paragraph that 'a Danish present participle often corresponds to a relative clause in French' and that 'the verbal adjective should be avoided when it expresses action limited in time'.

For Danish, Diderichsen, P. (1946: § 27c) mentions that it is only when participles have specific meanings that they can be used as attributive adjectives. The matter is not further explored, however. Hansen, Aa. (vol 3, 1964: 100) mentions that the present participle as an attributive adjective is more frequently used in written language. He does not state whether all present participles can be used.

The French attributive adjective having to agree in gender and number with the noun it qualifies, the question of knowing which *-ant* forms can be used as attributive adjectives has to be resolved. The problem does not present the same difficulties in Danish because the Danish *-ende* forms have only one ending, i.e. *-e*.

The question is, then, whether the 'nominality' and the 'verbality' of these forms can be of any use when one wishes to determine which *-ant* and *-ende* forms can be used as attributive adjectives.

2.3. 'Nominality' or 'verbality' of *-ant* and *-ende* forms

This is not the place to comment on the numerous studies in which the concepts of 'nominality' and 'verbality' of nouns and adjectives, etc., are dealt with.

However, I shall now briefly show that the problems presented by the adjectives described here cannot be solved by looking at their 'nominality' or 'verbality'. This applies to the forms when viewed out of context and can also apply to them when they are linked to nouns as attributive adjectives.

First, I shall demonstrate that it is not possible to determine the degrees of 'nominality' and 'verbality' for *-ant* and *-ende* forms when taken out of context. Forms such as

menaçant (*threatening*), and
talende (*parlant*/*speaking*)

would seem to suggest action and consequently to express 'verbality'. This reasonning is undoubtedly due to the fact that these forms have invariably been described in the chapters dealing with the syntax of the verb, as has been demonstrated above. But, in fact, when out of context, we cannot distinguish whether the forms belong to one or the other category. Neither can we say whether they are present participles or adjectives. Second, I shall demonstrate that when linked to nouns, as in:

a) *des paroles menaçantes* (*threatening words*)
(b) *une foule menaçante* (*a threatening crowd*)
(c) *et talende eksempel* (*un exemple parlant*/*an enlightening example*)
(d) *en talende person* (lit. une personne parlant/a person talking; in some contexts: *un sujet parlant*/*a speaker*)

we have to acknowledge that it is also difficult to decide whether the adjectives express an action or a state.

In (a) it cannot be said that 'words' can perform the action of threatening somebody in the literal sense of the verb. The example is equivalent to *une parole comminatoire* (*a threat word*).

In (c) it cannot be said that an 'example' can perform the action of talking in the literal sense of the verb. Rather it is an 'example' that reinforces the evidence of an argument.

In both examples, the *-ant* and *-ende* forms ought, then, to be considered 'nominal', if we wanted to make use of this criterion.

Apart from the nominal agreement of the *-ant* adjective, neither of the forms can be considered 'verbal', if this term is taken in its traditional sense of 'performing an action'. It should be remembered here that this is the meaning which is frequently suggested in grammars (cf. also p. 41 and 42).

As to examples (b) and (d), they can, when submitted out of context, have two meanings.

In (b), the 'foule menaçante', might be a concrete crowd which is actually uttering threats at somebody. If we disregard the nominal agreement of the *-ant* adjective, the form ought, then, to be viewed in its 'verbality', if we wanted to make use of this criterion. The 'foule menaçante' might, however, also be a 'crowd' conceived of as an abstract entity whose threats are potential but not actually uttered. The *-ant* adjective ought then to be viewed in its 'nominality', if we wanted to make use of this criterion.

The same applies to example (d). Out of context, the 'talende person' might be a person who is in the process of talking. The *-ende* form ought, then, to be viewed in its 'verbality', if we wanted to make use of this criterion. The 'talende person' might, however, also signify the 'speaker', in the 'speaker vs recipient' context. The 'talende person' is, then an abstract entity. The *-ende* form ought then to be viewed in its 'nominality', if we wanted to make use of this criterion. In all four examples, only a wider context or a given situation could decide the question.

The above examples show that:

1. When isolated from the context, it is not possible to determine whether these forms are 'nominal 'or 'verbal'.
2. When they are attributive adjectives, their sense may vary according to the nouns they qualify.
3. As soon as the present participle is transferred into the category of attributive adjective, this form may either acquire a figurative meaning which separates it definitively from that of the participle (exx. (a) and (c)) or it may undergo an individual semantic development (exx. (b) and (e)). This new meaning I suggest to call 'shifted' meaning.

These three points led me to the conclusion that it is not possible to describe exhaustively the infinite variety of possible contextual combinations. They also led me to the conclusion that even if it were possible to determine the 'nominality' and the 'verbality' of these forms, problems that it would be interesting to explore theoretically, one would have to describe all the attributive uses of them within one and the same chapter in the grammar, e.g. the chapter on word formation. It is indeed difficult to see how it would be possible to guide the users of the grammars if it was decided to describe the adjectives *menaçant* and *talende* used with nouns like *parole* and *eksempel* in the chapter dealing with nominals (i.e. nouns, pronouns, etc.), and the same forms used with nouns like *foule* and *person* in the chapter dealing with the syntax of the verb.

These arguments also apply to dictionaries for which, in addition, the cost of having to set up separate entries would be much too high.

In the same vein, it should be pointed out that it would be desirable to establish more of a dialogue between grammarians and lexicographers.

2.4. 'Nominality' or 'verbality' of the prepositional complements

I shall here quote and comment upon what is said about the complements introduced by a preposition (viz. *de résolution*, cf. p. 39) in the grammars cited, in which opinion differs.

I need perhaps not say that this type of complement represents undoubtedly one of the most contended subject within the field of syntax. The terms found, the definitions given and the viewpoints vary a great deal and, as it is not possible to present here a thorough discussion of the subject, I have for the time being chosen to call them 'prepositional complements'. Sometimes, I have chosen not to translate the terms which I have found.

Grevisse (1964), Togeby (1965), Diderichsen (1946) and Hansen (1967) consider these complements verbal *and* nominal. Pedersen *et al.* (1970) consider them purely verbal.

Grevisse, M. (1964: § 772) says that the *-ant* form is a present participle when it has 'un object indirect ou un complément circonstanciel, pourvu qu'il exprime une action'. He adds that an *-ant* form followed by 'un complément indirect ou surtout d'un complément circonstanciel' often expresses a state, 'un fait habituel, une caractéristique'.

Togeby, K. (1965: § 637) states that 'the *-ant* form is frequently used when followed by prepositional complements'. He goes on to say that 'since adjectives can also be determined by prepositional complements, the verbal adjective can also be used with these complements'. He adds that the verbal adjective 'often precedes a prepositional complement introduced by *de*, and other prepositions as well'.

Pedersen, J. *et al.* (1970: § 153.2.) consider them purely verbal. They state that these complements confer the status of verb upon the *-ant* form.

Diderichsen, P. (1946: § 27c) says, that the present participle can have a direct object, but he does not comment upon the prepositional objects. In

§ 87, he comments upon the elements the 'nexus' construction may consist of. He adds that in such constructions the participles may often be viewed as conjunctions.

Hansen, Aa. (vol 3, 1967 : 102) says that the 'implied elements' ('de forudsaettende led') precede the present participle. On p. 103, he states that the 'belonging elements' ('de tilhörende led') follow the present participle. He includes the direct object among these elements.

Both writers observe that this type of construction belongs under written language and is considered epistolary and rather pompous. My investigation of types of construction like *to af lykke stralende öjne* (lit. deux de bonheur brillant yeux/two with happiness shining eyes) has not been completed and is not included here, mainly because, in my corpus, such examples proved to be few and far between.

It might be appropriate to mention at this point that the *-ant* and the *-ende* forms are considered verbal by these grammarians when followed by a direct object (Grevisse, M. 1964 : § 772; Togeby, K. 1965: § 632; Pedersen J. *et al.* 1970: § 153.2.; Diderichsen, P. 1946: § 27c).

These statements raise the problem of deciding when the prepositional complements are to be called verbal and when they are to be called nominal.

Again, this is not the place to comment upon the problems raised by these complements. However, it will be seen that, in a synchronic description, it is certainly not justifiable to say that they are purely verbal.

First, I shall comment upon the adjectives *fou* (*crazy, mad*) and *traet fatigué/tired*). Like many other adjectives, they can be used without a complement. They may also be followed by prepositional complements. The adjective *fou* can be followed by *d'amour* in *fou d'amour* (*mad with love*). The adjective *traet* may be followed by *af sin kone* (*de sa femme/of his wife*). This, however, has not led any grammarian to deal with *fou* and *traet* in the chapter of the grammar dealing with the syntax of the verb.

In functional terminology, such complements are said to be ***nominal non-specific expansions*** i.e. their realizaion does not depend on the nominal (A. Martinet *et al.*[2]) and is never obligatory. The nature of the expansion may vary, i.e. it may express manner, time, space, etc.

Second, I shall comment upon the adjectives *apte* (*fit*) and *opsat* (*désireux/desirous*). They are both adjectives that *cannot* be used without a prepositional complement. The complement of *apte* is invariably introduced by *à*, e.g. *apte à la lutte* (*fit for the fight*). The complement of *opsat* is invariably introduced by *på*, e.g. *opsat på at laere* (*désireux d'apprendre/desirous to learn*). In passing, it might be mentioned that the Danish adjective *opsat* also occurs in a collocation like *opsat*

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[2] It is impossible to present here the details of all the expansions in the functional theory. The few examples given should, however, give a rough idea of this procedure.

hår (hair that has been 'put up'). The adjective is not synonymous with *opsat på*; it does not require any expansion and ought to form a separate entry in the dictionary.

In functional terminology, such complements are said to be *nominal specific function*, i.e. they are characteristic of the nominal. They are of course obligatory. From a diachronic point of view *apte* and *opsat* could be called verbal. The prepositional complements would then be considered verbal. Nevertheless, in the traditional synchronic descriptions, these adjectives are generally not considered verbal either.

Furthermore, the fact that they could be considered verbal from a diachronic viewpoint, has not led grammarians to describe such adjectives in the chapter of the grammar books dealing with the syntax of the verb. This procedure would be open to criticism in many respects — the traditional description of the *-ant* and *-ende* adjectives underlines it.

What has been said above leads to the conclusion that the prepositional complements of the *-ant* adjectives, in a synchronic description, have to be considered as follows:

1. as *nominal non-specific* expansions, as in e.g. *des personnages ignorants à faire pleurer* (*persons whose ignorance can make one cry*). The adjective *ignorant* (*illiterate, ignorant*) like many others, does not require an expansion, as in e.g. *des personnages ignorants* (*illiterate persons*).
2. as *nominal specific function*, as in e.g. *des personnages ignorants des questions d'ensemble* (*persons ignorant of general questions*). The adjective which is involved here is the adjective *ignorant de*. It does not mean *illettré, ignare* (*illiterate, ignorant*), but *qui n'a pas la connaissance de quelque chose* (viz. *who does not have the knowledge of something*). It requires the specific expansion which is characteristic of it. In the present case this expansion is introduced by *de*.

2.5 Conclusions

It appears from all that has been said above that the traditional descriptions of these adjectives are based upon their formal similarity to the present participle and upon a diachronic point of view (cf. p. 42, e.). But these descriptions do not answer the fundamental question they raise, i.e. whether all *-ant* and *-ende* forms may be used as attributive adjectives and — if so — whether they may be used with all categories of nouns. Above we have seen these forms described by means of verbal characteristics (cf. p. 41, a. and p. 42, and b., c.). Thus, an artificial distinction between these adjectives and the others is set up. This distinction is further intensified by questionable concepts like 'state without limitation in time' and 'action', the latter being then understood as 'limited in time'.

Below, I shall try to establish whether all present participles may be used as attributive adjective and, if so, how.

I shall adopt a different point of view without, however, trying to determine degrees of 'nominality' or 'verbality' for the forms. We have just seen that it is either impossible or useless at the pragmatic level to determine such degrees. I shall not attempt to draw up an inventory of these adjectives ending in *-ant* and *-ende*. During the four years that I have studied these forms I have found that new transfers occur constantly. And I shall not attempt to set up classes of verbs producing these adjectives. The verbal roots of *-ant* and *-ende* adjectives collected in the corpus are not limited to any of the traditional verb classes like transitive, intransitive, perfective or imperfective classes, cf. the examples given in this paper.

From the functional viewpoint of dynamic synchrony which I have adopted (Martinet 1975²), I shall now attempt to bring out features that allow the recipient to identify *-ant* and *-ende* forms as attributive adjectives. This should enable us to find some principles concerning the use of the *-ant* and *-ende* adjectives as attributive adjectives.

I am applying the notion of *class transfer*[3] in an attempt to define the conditions under which transfers from the verbal to the adjectival class can take place. A transferred element may result in a *fixation* as in, for example, *les Grands d'Espagne*, where *grand* is no longer an adjective but a noun. The same is seen in i.e. the well-known Oxford term, *the Greats*, (for the final B. A. examination).

2.6. The compatibilities of the adjectives ending in *-ant* and *-ende*

I shall consider attributive adjectives ending in *-ant* and *-ende* linguistic elements

A. that are transferred from the verbal class to the adjectival class

B. that belong to the unlimited class of linguistic elements that can be inserted in the dictionary

C. that can be used as qualifiers to determine nouns, to which they are subordinate *and* that can be used without any expansion

D. that — in French, are placed *before* or *after* the noun qualified with which they agree and — in Danish, are placed *before* this noun and whose agreement is not marked

E. that can be modified by adverbs which modify adjectives; such adverbs are placed *before* the attributive adjective in French and in Danish; as to the adverbs that can modify verbs *and* adjectives, they are placed before the *-ant* and the *-ende* adjectives; the adjective ending in *-ant* is not compatible with the negation *ne ... pas* (*not*); the adjective ending in *-ende* is compatible with the negation *ikke* (*not*), which is placed *before* the adjective (in passing, we may note that a form ending in *-ende* followed by *ikke* — this is the normal position of *ikke* when it modifies verbs — sounds odd, as in "spisende ikke sit bröd" (lit. mangeant ne pas son pain/ eating not his bread)).

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[3] A. Martinet *et al.* Lucien Tesnière comments on this phenomenon as follows: "It is essential to keep in mind that it is a syntactical phenomenon which consequently goes beyond the morphological data with which we have the bad habit of reasoning in syntax" (1959 : 365).

F. that in most cases adjectives ending in *-ant* may receive a non-specific expansion and, in some may receive a specific expansion; the expansions are generally placed after the adjective when it is placed after the noun; being placed before the noun qualified, the adjective ending in *-ende* cannot receive expansion placed after it; (the *form* ending in *-ende* can, however, receive an expansion placed before it (cf. p. 47), but the investigation of these occurrences has not been completed); the adjectives ending in *-ant* and in *-ende* cannot receive a direct object.

I shall not describe here the present participles ending in *-ant* and in *-ende* in French and Danish. I shall, however, distinguish them from the adjectives mentioned above and say that I consider the present participles linguistic elements

a. that are not transferred from the verbal to the adjectival class
b. that do not belong to the class of linguistic elements that can be inserted in the dictionary
c. that cannot generally be used without any expansion as qualifiers to determine nouns
d. that, consequently, cannot be placed before a noun in French and not after a noun in Danish
e. that cannot be modified by adverbs which modify adjectives; as to the adverbs that can modify verbs and adjectives, they are placed after the *-ant* the *-ende* forms when these are used as present participle
f. that the French present participle may receive a direct object, or specific expansions which are generally placed after the participle; that the Danish present participle may receive a direct object, or specific expansions

What has been said here about the compatibilities of these two classes of elements will be exemplified throughout the article.

3. The *-ant* attributive adjective.

3.1. The three groups of forms.

I had noticed that the present participle most frequently differed from the adjective ending in *-ant* by its meaning (cf. p. 38). I wanted to get this point verified by French speakers. The conversations I had with the French interlocutors mentioned on p. 40, their spontaneous reactions and their opinion on the matter confirmed my own observation. On the basis of this and of what has been said by my French interlocutors, I have divided the forms ending in *-ant* into three groups:

Group 1. This group consists of forms like *poignant* (*poignant*), *pantelant* (*panting*), *sanglant* (*bloody, cruel*), *florissant* (*flourishing*), etc. The basic verb of these adjectives does not exist any longer or is in the process of disappearing. These adjectives have resulted in fixations. My French interlocutors spontaneously added nouns to them, to form nominal syntagms of the type *une histoire sanglante* (*a cruel story*). The adjectives in *-ent*, *-cant*, *-gant*, etc., as well as *puissant* (*powerful*), *savant* (*learned*), etc. as listed in modern grammars (cf. p. 42, e.) belong to this group and ought not to be considered present participle in synchronic descriptions.

Group 2. This group consists of forms like *retentissant*, *persévérant*, *reconnaissant*, *amusant*, *charmant*, etc. The basic verb still exists, and on the basis of their meaning, these forms can be divided into two subgroups, each having different compatibilities.

Group 2a: *retentissant (resounding), persévérant, (persevering), reconnaissant (recognizing), amusant (amusing), charmant (charming),* which are present participles.

Group 2b: *retentissant (known far and wide), persévérant (steadfast, constant,* etc.), *reconnaissant (grateful), amusant (comic, amusing), charmant (delightful, charming),* which are adjectives with a figurative or a 'shifted' meaning.

With these forms my French interlocutors either formed participial phrases of the type *une histoire amusant tout le monde (a story that amuses everybody)* — or nominal syntagms of the type *une histoire amusante (an amusing story).* We may note that in the participial phrase, we *cannot* leave out the direct object *tout le monde*. The utterance 'J'ai entendu une histoire amusant' (lit. I heard a story amusing) is not possible.

Group 3. This group consists of forms like *marchant (walking), lisant (reading), visant (aiming), jouant (playing), chantant (singing), poussant (pushing), appelant (calling).* Most of my French interlocutors did not form nominal syntagms with these forms but participial phrases of the type *visant un but très précis, elle arriva à ses fins (Aiming at a very specific goal, she succeeded).*

3.2. The transfers

We shall now see how the transfers of the forms from Group 3 to Group 2b take place, i.e. the transfers from the verbal class to the adjectival class, in the attributive function.

We find that the problem consists in distinguishing the present participle from the attributive adjective. In French the attributive adjective is usually placed after the noun it qualifies. This position is also the usual position of the *-ant* attributive adjective and can be the place of a participial phrase which can be introduced by a present participle. The two forms being identical when the attributive adjective is a masculine singular form, they could be mistaken. But, as they frequently have different meanings, they should be distinguished from one another.

This is evidenced by the following example: *afin d'avoir un gage de réussite et lui faire donner ce retentissant camouflet sur la joue du général* (Peyrefitte, R. 1970 : 288) (so as *to have a token of success and having the general given a rosounding buffet on the cheek*). The writer has presumably preferred the anteposition of the adjective *retentissant* because he wished the adjective to be identified as an attributive adjective — which means 'something which is spoken much about, known far and wide'. The postposition of this form of the masculine singular would have led to a syncretism. The reader may have wondered whether the buffet 'resounded' (i.e. made noise) on the general's cheek or whether is was 'a buffet which was spoken much about'.

Syncretisms were extremely rare in the corpus.

It should be noticed that the distinction between the participle and the adjective in the position after the noun could have been made in the spoken language by using stress and intonation. The adjective can receive a stress and a rising intonation on its first syllable: *un camouflet 'retentissant sur la joue du général* and it can be followed by a slight pause. The participle, on the other hand, cannot receive a stress on its first syllable and so cannot be uttered on a rising intonation. The sentence can be uttered with a very slight pause after the noun but without a pause after the participle.

The transfers of the present participle to the adjectival class take place under very specific conditions. The conditions under which such transfers can take place will now be explained. The conditions are divided into two groups.

A. Compounds

In order to study these transfers, I shall take the forms *appelant (calling), galopant (galloping), chantant (singing), marchant (walking), couchant (setting)*, as examples.

For many of my French interlocutors, and perhaps for many other speakers of French, some of these forms belong solely to Group 3.

However, these forms have have been transferred to the adjectival class as attributive adjectives in synthemes (cf. Martinet 1967 : 134 and Martinet 1975a : 200). A *syntheme* is a significant unit which can be semantically analysed as two (or more) significant units but which, syntactically, keep the same relations with the other elements of the utterance as the monemes with which it can be exchanged. There are two types of synthemes: the *derivate* and the *compounds*. A *moneme* is a two-sided element. One side is the 'signifié', which is the meaning or the value of the moneme. The other side is the 'signifiant' by means of which the 'signifié' is manifested phonetically (Martinet 1967 : 16).

The compounds found are types like *canard appelant (decoy duck), partie appelante (appellant), phtisie galopante (galloping consumption), basse chantante (walking bass), aile marchante (leading wing* of, say, a political party), *solell couchant (setting sun)*. The adjective is most commonly put after the noun, but anteposition can also be met as in i.e. *un flagrant délit (flagrante delicto* or *(caught) in the act* or *red-handed)*.

There exists quite a number of these compounds, but they are not always commonly known as some of them belong under 'language for special purposes'. They are usually included in French dictionaries and those of them that belong under 'languages for special purposes' should be included in terminology banks.

We can see that all these compounds are synthemes from the fact that they can be replaced by monemes, as may be seen for example in *canard appelant* for which can be substituted *appeau (decoy)* and with *partie appelante* which can be exchanged with *appelant*, etc.

We cannot add qualifiers or modifiers to one constituent element of the compound without making nonsense of it. The compound *un canard appelant* may be qualified by *très beau*: *un très beau canard appelant (a very beautiful decoy duck)*. The moneme *canard*, however, cannot be qualified on its own. The sentences "J'ai vu un canard gris appelant." (lit. I saw a duck grey calling) or "j'ai vu un canard très appelant." (lit. I saw a very calling duck) are not possible.

The addition of a non specific expansion after *appelant* can sometimes create a syncretism (cf. p. 00). The sentence *j'ai vu un canard appelant dans l'étang* may be translated and understood in two different ways: either as *I saw a decoy duck in the pond* or as *I saw a duck calling in the pond*. A proper analysis remains, however, necessary and only the context or the situation could decide the meaning.

If an expansion to the verb *appeler (call)* like *au secours (for help)* is added to the sentence, the form is present participle. (It should be noted that this verbal expansion is not obligatory). In the sentence *J'ai vu un canard appelant au secours dans l'étang (I saw a duck calling for help in the pond)*, the *-ant* form is verbal. If we substitute the feminine *cane* for the masculine form *canard*, we get *une cane appelant au secours dans l'étang*, where there is no 'agreement' of the form *appelant* with the noun *cane*: it is the entire participial phrase *appelant au secours dans l'étang*, that qualifies *une cane*, and *appelant* is present participle.

It is important to note that the nouns in the compounds are characterized by the fact that they do not belong to the semantic category 'human' and that the category 'animate non-human' is not very frequent.

Those adjectives whose use is restricted to compounds can only qualify a limited number of nouns respectively. The adjective *dormant*, for instance, may qualify *eau (water)*, *pont (bridge)*, *châssis (frame)*, *vantail (leaf* or *light* of windows and doors, etc.), *lignes* (*lines* in the military sense). The adjective *couchant (setting)* may qualify *soleil (sun)* and *chien* in the idiom *faire le chien couchant (to fawn)*.[4] We could call this type of attributive adjectives *bound adjectives*.

Some of these compounds may happen to enter into common use. The compound *phtisie galopante*, became commonly known, presumably because this disease was frequent in the 19th and in the beginning of the 20th century. The adjective may then gradually loosen its link with the noun and develop semantically in an independent way. It can then be used in syntagms. We could call this type of attributive adjectives *free* adjectives.

The following examples of this development were found in: *un réflexe contre la démocratie galopante* (Curtis, J. -L. 1967 : 211) (*a reflex against galloping democracy*), in: *dû au style d'André Lacaze, style direct, galopant et très argotique* (Le Nouvel Observateur nº 707 : 73) (*due to the style of André Lacaze, a direct, galloping and very slangy style*), and in *la multiplication galopante des cliniques sexologiques* (Le Monde 22 - 29.8.1975 : 9) (*the enormous increase in the number of sex clinics*).

In these examples we note that the nouns qualified, as was the case with the compounds, do not belong to the semantic categories 'human' or 'animate non-human'. We note also that the meaning of *galopant* may display slight variations according to the noun it qualifies.

With time, the adjective may acquire more and more semantic autonomy and be used very freely. This is what has happened with adjectives such as *courant* (*current*, *common*, etc.), *marquant* (*prominent*, *outstanding*, etc.), *suivant* (*following*, etc.).

Fixed transfers may lead to borrowings in other languages, as is the case with e.g. *dormant law* (*loi inappliquée*), *dormant warrant* (*mandat en blanc*). It may be noted that the collocations may be different from the French collocations (cf. above).

B. Nominal syntagms

These forms can also be transferred from Group 3 to Group 2b when included in a nominal syntagm. However, the forms generally receive one or several formal or syntactic mark(s) which make it clear that they are attributive adjectives.

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[4] The information concerning *dormant* and *couchant* is taken from the dictionary *Le petit Robert*.

a. Agreement in gender and/or number with the noun it qualifies: *à côté de la carafe transpirante* (Pagnol, M. 1957 : 354) (*near the perspiring jug*).

b. Position before the noun: *il y a de proliférantes richesses dans la culture du monde bourgeois moderne* (Morin, E. 1965 : 111) (*there are proliferating riches in the culture of the modern bourgeois world*).

c. Linking it to adverbs which modify the adjectives: *l'une des expériences les plus authentiquement festoyantes recommence* (Le Nouvel Observateur n° 607 : 10) (*one of the most authentically festive experiences recommences*), *la conversation retombe en des domaines plus anodins, quoique toujours hautement esthétisants* (Curtis, J.-L. 1967:174) (*the conversation slips back to more trivial matters but remains however highly aesthetic*).

All these marks enable the recipient to distinguish the adjective from the present participle. The adjectives *transpirant* (*perspiring*) and *festoyant* (*festive*), do not appear in the *Grand Larousse de la langue française*, or in *Le petit Robert*, or in the *Lexis*. The adjective *proliférant* (*proliferating*) is to be found in the *Grand Larousse de la langue française* as an adjective. The quotation given is from Paul Valéry and dates from 1945.

I have found isolated examples which contain adjectives that do not appear in the above-mentioned dictionaries for which no agreement is possible because the noun qualified is masculine singular and in which we do not find the adjectival marks mentioned above as in *une fouine provoquant un émoi caquetant dans un bruit de plumes* (Prou, S. 1973 : 89) (*a weasel provoking a cakling flutter amidst a noise of feathers*). The identification of the adjective *caquetant* is nevertheless ensured by the figurative meaning conferred on it by *émoi* (*flutter*), which cannot very well be said to 'cackle'.

The nouns of the nominal syntagms into which the *-ant* forms may also be transferred are characterized by the fact that they do not, as was case with the compounds, belong to the semantic category 'human'. These transfers are not frequent.

By using these attributive adjectives with nouns belonging to semantic categories with which it would be difficult to link the purely verbal feature 'able to perform the action conveyed by the verb' (*consumption*, for instance, cannot literally *gallop*), a figurative or 'shifted' meaning is conferred on them. This meaning may present slight variations according to the nouns with which they are linked.

In this respect it is interesting to note that the adjective *rieux* is used to qualify a person who is much given to laughter, whereas the adjective *riant* is used only with the types of nouns mentioned on p. 38, which do not belong to the semantic category 'human'.

The adjective *travailleur* is used to qualify a person who works a great deal.

In present-day usage, a relative clause is used to qualify a person who works or who belongs to the wage-earning class. The adjective *travaillante* (cf. p. 38 in 'femme travaillante') is considered odd by many French people. I have heard it but it is difficult to say whether this transfer will become common or whether it will disappear.

The adjective *grimpeur* is used to qualify the birds whose feet make them able to climb. It is used to form the compound *oiseau grimpeur* where the noun belongs to the semantic category 'animate non-human'. The adjective *grimpant*, however, can be used with nouns like *rosier* (*rose bush*) or *plante* (*plant*) to form compounds like *rosier grimpant* (*climbing rose*) and *plante grimpante* (*creeper* or *climbing plant*). The nouns in these compounds belong to the category 'inanimate'.

In fact, the *-ant* adjectives are only used as attributive adjectives with nouns belonging to the semantic category 'human' when the adjectives belong to Groups 1 and 2b and when their meaning is figurative. This is what is found in *un garçon brillant* (*a gifted boy*), *un homme fascinant* (*a fascinating* or *an attractive man*).

It should be noted that the basic verbs of Group 2b can have two or several meanings, among which a figurative one. The verb *fasciner* i.e., may mean (a) 'to master, to immobilize by the sole power of the eyes' (i.e. *hypnotize*) or (b) 'fig. to dazzle by beauty, ascendancy, high reputation' (i.e. *attract* (quoted from *Le petit Robert*, item *fasciner*).

3.3. Agreement of the *-ant* form followed by expansions

The forms we have seen above agree with the nouns qualified because they had been transferred to the class of adjectives. This agreement is not due to the liaison of the final /t/ of the adjective when followed by a vowel.

It was mentioned on p. 39 how French people hesitate when 'having to decide whether the participle agrees with the noun or not' as some of them commented upon their difficulties.

In fact, agreements exist which may be regarded as unwarranted. However, such agreements contribute to proving the existence of *-ant* adjectives whose meaning, collocations and specific use are not known by all French speakers, as was seen above.

Their hesitation seems to come from what is taught in grammars. When informed that the present participle is the adjectival form of the verb and that it may assume the verbal as well as the adjectival functions (cf. p. 41), the speakers are led to believe that all present participles may be used as adjectives.

The reasoning found in the grammars quoted here, and the fact that it is always given in the chapter dealing with the syntax of the verb, mask the fact that the present participle and the *-ant* adjective are, in most cases, distinct from one another through their meanings and their compatibilities. The difference in meaning might be slight but most frequently it is obvious. This means that *choosing* one or the other is not arbitrary (cf. Martinet 1966: 271 - 282 or Martinet 1967: 25 - 27).

I shall first examine the case of *vibrant* (*vibrating, throbbing, eager, rousing,* etc.). According to what meaning we want to convey, we may either make it agree with the noun to which it is an attributive adjective or use the participle.

By making it agree with *voix* (*voice*) as in *il a une voix vibrante de résolution* (*he has a voice trembling with firm resolve*), we mean that this voice betrays deep emotion, which is one of the meanings of the adjective. To this adjective we are free to add a non-specific expansion, which does not in any way affect its attributive status.

If we use the participle, we mean that concrete vibrations which suggest 'firm resolve' occur in the voice. However, it may be noted that this choice implies the realization of a specific expansion which can be added to the verb *vibrer* and which is introduced by *de*. The sentence "Il a une voix vibrant" (lit. he has a voice vibrating) is not possible.

Some 'mistaken' agreements found may reflect the /t/ liaison vacillation. This is what happened in the following example: *Signifiant et signifié* [*sont*] *séparés par une barrière résistante à la signification* (Mounin, G. 1968 : 11) (lit. the signifiant and the signifié [are] separated by a barrier which resists the meaning, viz.: *the signifiant and the signifié* [are] *separated by an impenetrable barrier*). In fact, this agreement proves that there exist adjectives distinct from the present participle at the meaning level. The writer makes the form agree with the noun, presumably, because he is aware of the existence of the adjective *résistant*, synonymous with *fort* (*strong*), *solide* (*solid*) etc., and because he knows that the verb *résister* (*to resist*) may be followed by an expansion introduced by *à* (*to*). However, the *-e* may be regarded as being contrary to ordinary usage because the adjective *résistant* is hardly ever used with this expansion of the verb. The adjective, which does not have the same meaning as the participle, is used in syntagms like *vêtements très résistants* (*very hard-wearing clothes*), etc.

I do not describe here the use of the *-ant* form that is made in what is traditionally called the 'apposition'. But, in passing, I finally want to examine the two pairs of examples given in § 8 of the decree of the 9th February 1977 of the French Ministry of Education:

'La fillette, obéissant à sa mère, alla se coucher'
(*The little girl, obeying her mother, went to sleep*)
'La fillette, obéissante à sa mère, alla se coucher'
(*The little girl, obedient to her mother, went to sleep*)

'J'ai recueilli cette chienne errant dans le quartier'
(I have picked up this female dog straying in the neighbourhood)
'J'ai recueilli cette chienne errante dans le quartier'
(I have picked up this stray (female) dog in the neighbourhood).

The French Ministry of Education has commented on these examples as follows: "Depending on the intention, usage permits the *-ant* form to be used without agreement in the participial form, or with agreement in the adjectival form which corresponds to it. We shall permit both uses in all cases". The English translation of the first pair shows that the meanings conveyed by the *-ant* adjective and the participle differ. Apart from the fact that the meanings conveyed by the *-ant* forms of the second pair also differ, they are interesting in another respect.

There exist compounds, formed with the adjective *errant*, like *chien errant*, *chevalier errant* (*knight-errant*), *chevalerie errante* (*knight errantry*), *Juif errant* (*Wandering Jew*). They are certainly known by all French people from fairy-tales and similar sources.

In *Le petit Robert* the adjective *errant* of *chien errant* is followed by the subsequent annotation 'fin XVII.; adj. part. de *errer*, de *errare*'. The meaning given is 'who is walking around, who has no fixed place'. The synonyms given are *vagabond* (*stray*), *égaré* (*lost*), *perdu* (*lost*), *flottant*, (*floating*), and *fugitif* (*fugitive*). The adjective *errant* of the other compound is followed by the subsequent annotation "XII.; p. prés. de l'a [ncien] v [erbe] *errer* 'marcher, aller', du bas latin *iterare* 'voyager'". The meaning given after *chevalier errant* is 'qui ne cesse de voyager' (*who keeps on travelling*). No synonyms are given. The entry of this *errant* is marked '1.' and ends with 'REM'. 'Le mot n'est pas distingué de *errant* 2' (the word is not distinguished from *errant* 2.), which is the one seen above. This means that the two adjectives are considered synonymous.

What should be noted, however, is the fact that the adjective *marchant* (lit. walking), which can be used in the compound *aile marchante* (cf. p. 53), would certainly not be accepted by a French Board of Examiners in a sentence like "J'ai recueilli une chienne marchante dans la rue" (lit. I *have picked up a (female) dog walking in the street*).

This is evidenced by an example like: *Je revois Mme Lemaire marchant sur les tables* (Beauvoir, S. vol. I, 1963 : 50) (*I recall seeing Mrs. L. walking on the tables*), in which *marchant* does not agree with the feminine *Madame Lemaire*.

These examples show that French people do not necessarily go into the details of a syntactic or semantic analysis when writing. This is perhaps due to the fact that they are not always aware of the syntactic and semantic differences between the participle and the adjective ending with *-ant*.

The examples also show that phonic factors may provoke 'agreements' that may be regarded as contrary to normal usage.

It should not be necessary, finally, to say that the age of, the knowledge of and the imaginativeness about their own language of my French interlocutors were decisive as to their use or non-use of these attributive adjectives. There remains to be made a stylistic analysis of the attributive uses of the *-ant* adjectives.

The hesitations of some Frenchmen and the irregularities met with prove, however, that the participle and the adjective are almost always distinct from one another. If it were not so, only the participle would be used and there would be no hesitation.

Finally, it is interesting to note that in paintings, we find the *-ant* adjective when it is fixed. This is what we have in the title of a painting which is attributed to Van Dyck *Trois musiciens ambulants* (*Three Rambling Musicians*) (Onieva, A. J., 1970 : 90). And, we have the participle when the *-ant* form has not been transferred from Group 3 to 2b, i.e. in *Femme cousant* (*Sewing Woman*) by Cézanne (Faure, E., 1964 : 160), or when the *-ant* adjective has not yet loosened its links to the noun of the compound, i.e. *Paysans chantant* (*Singing Peasants*) from the painter Van Ostade (Onieva, A. J., 1970 : 98). Such titles constitute the rare cases where we find the present participle without an expansion.

3.4. The dictionaries

The syntactic and semantic constraints by which the transfers are bound restrain the number of the transfers.

Transferred *-ant* adjectives very often become fixed. They often have a meaning which differs from that of the present participle and their collocations may be very restricted.

These adjectives, then, are generally recorded in the French dictionaries cited in an entry distinct from that of the verb. Their current collocations, and the synthemes they have formed, are usually mentioned.

However, in a translation class, the students should be told that not all existing *-ant* adjectives are recorded in ordinary French-Danish dictionaries. In Blinkenberg A. og Høybye P. (1964), for instance, the compound *aile marchante* is not recorded.

3.5. Recapitulation

Through the viewpoint of dynamic synchrony, I have illustrated above:

1. that the *-ant* forms can be divided into three groups: *Group 1* consisting of adjectives, *Group 2* consisting of *Group 2a*, whose forms are to be considered present participles, and *Group 2b*, whose forms are to be considered

adjectives — and *Group 3* consisting of forms that are commonly identified as present participles (p. 51 ff.)

2. that transfers of *-ant* forms from Group 3 into Group 2b are done frequently in compounds (p. 52 ff.) and sometimes in nominal syntagms (p. 54 ff.)
3. that the *-ant* adjectives whose use is restricted to compounds can only qualify a limited number of nouns (p. 54 ff.)
4. that the forms belonging to Group 2b may become fixed in common use (p. 54), and that the adjective of a compound can gradually loosen its links with the noun and be used in syntagms (p. 53)
5. that *-ant* adjectives are most frequently used as qualifiers with nouns that belong to other semantic categories than the category 'human', (p. 56 ff.) also illustrated that the *-ant* adjectives can be used as qualifiers with nouns that belong to the semantic category 'human' when they have become fixed in common use and belong to Group 1 and 2b, (p. 56 ff.)
6. that the choice of the adjective and of the present participle is not arbitrary; this was evidenced through examples of unwarranted 'agreements', (p. 57 ff.).

The examples found in my corpus showed that the *-ant* attributive adjectives often have a figurative meaning and that they can have a 'shifted' meaning.

In grammars, it would be advisable not to describe the *-ant* attributive adjectives in the chapter dealing with the syntax of the verb so as not create confusion between the present participle and the attributive adjective. It could be described under the heading of word formation, within the section of transfers. The reader may then be referred to the dictionary because in grammar books it is not possible to describe all the meanings and the collocations these adjectives may have. In French grammars for non-Frenchmen, it would perhaps be advisable to recommend that neological transfers (cf. p. 56) should not be made.

4. The *-ende* attributive adjective

4.1. I had noticed that the present participle could differ from the adjective ending in *-ende* by its meaning (cf. p. 38 ff). I wanted to get this point confirmed by Danish speakers. The conversations I had with the Danish interlocutors mentioned on p. 40, their spontaneous reactions and their opinion on the matter confirmed my own observation.

On the basis of this and of what has been said by my Danish interlocutors, I have divided the forms ending in *-ende* into three groups:

Group 1. This group consists of forms like *aldrende* (*vieillissant*/*ageing*), *standende* (*en cours*, *actuel*, etc./*standing*, etc.), *glubende* (*féroce*, *farouche*, etc./*ferocious*, *fierce*, etc.), etc. The basic verb of these adjectives does not exist any longer or is in the process of disappearing. These adjectives have resulted in fixations. This group also consists of forms like *formuende* (*riche/rich*), *forrygende* (*terrible, fantastique*, etc./*terrific, fantastic*, etc.), *nuvaerende* (*actuel/present*, etc.), *umaelende* (*muet/dumb*, etc.), *kodaedende* (*carnivore/carnivorous*), *klaverspillende* (*qui joue du piano/who plays piano*) etc. As a verbal root does not exist, these forms are adjectives. My Danish interlocutors spontaneously added nouns to them, to form nominal syntagms of the types *en glubende appetit* (*un appétit de loup/a ravenous appetite*) and *et forrygende vejr* (*un temps affreux/a terrible weather*).

Group 2. This group consists of forms like *taenkende* (from the verb *taenke*: *penser/think*), *draebende* (from the verb *draebe*: tuer/*kill*), *arbejdende* (from the verb *arbejde*: *travailler/work*, *skurrende* (from the verb *skurre*: *grincer/jar* etc.) The basic verb still exists and, on the basis of their meaning, these forms can be divided into two subgroups:

Group 2a: *taenkende* (*pensant/thinking*), *draebende* (*tuant/killing*), *arbejdende* (*travaillant/working*), *skurrende* (*grinçant/jarring*), which are present participles.

Group 2b: *taenkende* (*doué de raison, qui a la faculté de penser/who is gifted with the power of reasoning, who can think*), *draebende* (*ennuyeux, tuant/boring, killing*), *arbejdende* (*qui appartient à la classe des salariés/belonging to the wage-earning class*), *skurrende* (*grinçant, dissonant/jarring, caustic, offensive*), which are adjectives with a figurative or a 'shifted' meaning.

With these forms, my Danish interlocutors mostly formed nominal syntagms of the type *et taenkende individ* (*une personne intelligente, sensée/an intelligent person, a sensible person*). When asked, they sometimes said that these forms could perhaps also be used in the type of construction *to af lykke strålende blå ojne* (cf. p. 47), but declared that such constructions sounded heavy.

Group 3. This group consists of forms like *skillende* (from *skille*: *séparer/separate*), *spaerrende* (from *spaerre*: *fermer, obstruer/close, obstruct*), *glattende* (from *glatte*: *aplanir, lisser/flatten, smooth*), *organiserende* (from *organisere*: *organiser/organize*), etc. The Danes with whom I spoke were doubtful about these forms. They hesitated to form nominal syntagms with them (one of them said 'You could have *et udglattende tonefald*' (lit. un ton conciliant/a smoothing over tone) and they were reluctant as to form the type of construction, which is not described here.

4.2. The transfers

It should be noted that the adjectives of Group 1 of the type *klaverspillende* (from *spille*: *jouer/play*+*klaver/piano*) is practically unlimited because it is nearly always possible to form such synthemes in Danish. However, this type of adjectives cannot be called transfers as there is no verbal root such as 'klaverspille'.

A. Nominal syntagms

The forms of Group 3 may be transferred to Group 2b by placing the *-ende* form before the noun it qualifies.

Since the Danish attributive adjective is placed before the noun, the *-ende* form becomes an attributive adjective when in this position. It also acquires the compatibilities of this adjective (cf. p. 49 ff).

Below are some of the examples found:

(a) *I det moderne samfund må de skillende vaegge falde* (Bredsdorff, T. 1967 : 40) (*Dans la société moderne, les cloisons qui séparent* [*les*] *classes doivent tomber/In modern society, the barriers which separate* [*classes*] *must fall*)

(b) *en varm protest mod det spaerrende mörkesyn* (Fog, M. 1964 : 24) (*une ardente protestation contre un pessimisme qui obstrue l'horizon /a fierce protestation against a pessimism which obstructs the horizon*)

(c) *Når 'Medicinsk Forum' har önsket en kommenterende betragtning* (Fog, M. 1964 : 17) (*Lorsque 'M. F.' a demandé des commentaires/When 'M. F.' has asked for commentaries*)

(d) *Helle gjorde en glattende bevaegelse ned ad sin kjole* (Kampmann, G. 1975 : 42) (*H. lissa sa robe d'un geste de la main/H. smoothed her dress with a movement of the hand*)

(e) *larmen af de skrålende börn* (Topsoe, W. 1975 : 41) (*le bruit des enfants criards* ou *qui crient/outcry of the noisy children* or *the noise of the children that shout*).

The *-ende* adjectives of these examples do not appear in H. Juul-Jensen (1918) or in L. Jacobsen (1975).

The transfers into nominal syntagms, which are very frequent, are characterized by the fact that the nouns qualified do not often belong to the semantic category 'human', but they do exist (cf. ex. (e)).

Depending upon the context or the situation, the attributive adjective may have a figurative or a 'shifted' meaning. In example (a) e.g., the locative function *i det moderne samfund* (*dans la société moderne/in modern society*) confers a figurative meaning upon the adjective *skillende* (lit. séparant/dividing) and the noun *vaegge* (*murs/walls*). In Danish, dividing walls in the concrete sense, i.e. between rooms, are called *skillevaegge*.

In example (e), the adjective *skrålende* can be interpreted in two ways. The children may be either children who, generally speaking, make a great deal of noise or children who are screaming at present. Only a wider context or a given situation would allow the question to be settled.

It may be appropriate to recall here what has been said on p. 42. Even if we could find out, in the present case, that the form *skrålende* with *börn* (*enfants/children*) is 'more verbal' because the noun belongs to the semantic category 'human' than the form *skrålende* with let us say *dagspresse* (*newspapers*) in i.e. *den skrålende dagspresse protesterede mod de höje skatter* (*the howling press protested against the high taxes*), we would have to describe the two attributive uses of *skrålende* within one and the same chapter in the grammar and to give one entry in the dictionary.

Compared with a language like French, the amount of transfers of present participles to the attributive class is extremely high. This explains why the Danish corpus is only half the size of the French one. Reading 4,000 pages was enough to interpret the questions related to these attributive adjectives.

The fact that the transfers from Group 3 into 2b are very frequent, that they do not always have a figurative meaning and that their collocations are seldom restricted to some few nouns reduces the amount of fixations.

But they can occur, as is the case in i.e. *löbende* (from *löbe*: *courir/run*). In present-day usage this form is mostly used as equivalent to *en cours* (*standing*), *courant* (*current*), etc., with nouns like *sager* (*affaires/affairs*), *budget* (*budget/budget*), *forhandlinger* (*débats/debates, discussions*), *kontrakter* (*contrats/contracts*) and similar nouns. This adjective, however, is not used with *vand* (*eau/water*). The French syntheme *eau courante* (*running water*) is in Danish rendered by *rindende vand* (from the verb *rinde*: *couler/run*). The adjective *rindende* is also used with *öjne* (*yeux/eyes*) in *rindende öjne* (*yeux chassieux/rheumy eyes*).

The following examples show that the transferred adjective acquires the compatibilities of the attributive adjective (cf. p. 49 ff)

1. It can be modified by adverbs which modify adjectives and such adverbs are placed before the adjective: *på den mest overraskende måde* (Vad, P. 1970 : 5) (*de la manière la plus surprenante/in the most surprising manner*)
2. It can be modified by adverbs which modify verbs *and* adjectives and such adverbs are placed before the adjective:
   Mette sagde 'Mor graeder' i et sagligt konstaterende tonefald (Kampmann, C. 1975 : 24) (*'Maman pleure' constata M. d'un ton empreint d'objectivité/'Mummy is crying', M. stated in a matter-of-fact tone of voice*).

B. Compounds

It seems that the *-ende* forms of Group 3 are principally transferred into Group 2b into syntagms, without being linked to one or just a few specific nouns. They can develop from this use and become fixed in specific uses. This means that they are then linked to relatively few nouns and that they acquire specific meanings, often figurative or 'shifted'. It also means that the noun and the adjective may form a compound.

The adjective *fortaellende* (from *fortaelle*: *raconter/tell*) can be used in i.e.

fortaellende digt (*poème narratif/narrative poem*), *fortaellende nutid* (*présent historique/historic present*), and similar syntagms or synthemes. The latter example should be considered a syntheme as it is not possible to determine one of the constituent elements. The syntagm "en meget fortaellende nutid" (lit. un présent très racontant/a very telling present) sounds odd. The adjective *fortaellende* can also be used to-day in the compound *fortaellende jeg* (le *je narrateur*/the *narrative I*) which is certainly a syntheme. Further examples of this development were mentioned on p. 63. It should be noted that the nouns qualified rarely belong to the semantic category 'human'.

As was the case in French, the age of and the imaginativeness about their own language of my Danish interlocuteurs were decisive as to their use or non-use of these attributive adjectives. A stylistic analysis of the attributive uses of the *-ende* adjectives, which Hansen, Aa. has begun (vol. 3, 1967 : 101), remains to be done.

It is undoubtedly significant that, when faced with *-ende* forms without a noun, my four Danish interlocutors often spontaneously added nouns to them in order to form a nominal syntagm. This seems to indicate that there is apparently a strong tendency at present to use these forms attributively. It may be going too far to say that the present participle seems to be in the process of disappearing in contemporary Danish when used in the constructions which are not described here (cf. p. 47). On the other hand, *-ende* forms are often used in constructions of the type *komme smilende* (*arriver en souriant/arrive smiling*), *sige graedende* (*dire en pleurant/to say through tears*), etc.

It is also interesting to note that in Spanish, for instance, *-ante* and *-ente* forms are not nowadays used in the verbal function. Bouzet, J. (1964 : 207) says about these forms that 'they do not exist for all verbs' and that 'this is the reason why they are no more entitled to be listed in the conjugation tables than the other verbal derivatives'.

4.3. The dictionaries

The insertion in the dictionaries of the type of forms belonging to Group 1, like *klaverspillende* is generally done when the syntheme has become fixed. The syntheme *ködaedende* (lit. köd/viande/flesh+aedende/mangeant/eating), which means *carnivorous* (*carnivore*) for example, is found recorded under the entry of the first moneme, *köd*.

It has been seen above that the transfers are very frequent but that the transferred forms are not frequently fixed. Consequently, in the contemporary Danish dictionaries referred to, these adjectives are only found recorded when they have acquired specific meanings and are used with specific nouns, viz. when the transfer has led to fixation.

The item is usually to be found under the heading of the verb, at the end of the article and separated from the equivalences given for the verb. Sometimes the adjective has a separate heading, like *löbende*. In both cases they are marked with 'part.', 'adj.', 'part. adj.' or 'part. i saerlige anvendelser' ('specific uses of the participle'), etc. Such notations may be found within the same dictionary.

However, in a translation class, the students should be informed that some *-ant* forms are sometimes given as equivalent to *-ende* adjectives, although these *-ant* forms are participles that have not yet been transferred to the adjectival class. In Blinkenberg, A. og Thiele, M. (1937) and in Blinkenberg, A. og Höybye, P. (1975), the forms *fonctionnant* and *exerçant* are given as equivalent to *fungerende* (from *fungere*: *fonctionner*, etc./*function*, etc.).

4.4. Recapitulation

Through the viewpoint of dynamic synchrony, I have illustrated above

1. that the *-ende* forms can be divided into three groups: *Group 1* consisting of adjectives, *Group 2* consisting of *Group 2a*, whose forms could be considered present participles, and *Group 2b*, whose forms are to be considered adjectives — and *Group 3* consisting of forms that could be considered present participles,
2. that transfers of *-ende* forms from Group 3 into Group 2b are done very frequently in nominal syntagms (p. 62 ff.),
3. that the adjectives in *-ende* can develop and become fixed in specific uses, i.e. in compounds (p. 63 ff),
4. that *-ende* adjectives are frequently used as qualifiers with nouns that belong to other semantic categories that the category 'human', but that this category can be found (p. 62)

The examples found in my corpus showed that the *-ende* attributive adjectives can have a figurative or a 'shifted' meaning.

In grammars, it would be advisable not to describe the *-ende* attributive adjectives in the chapter dealing with the syntax of the verb because this would create confusion between the participle and the attributive adjective. It could be described under the heading of word formation, within the section of transfers. The reader may then be referred to the dictionary because in a grammar it is not possible to describe all the meanings these adjectives may have. It should be stressed, however, that contemporary dictionaries only contain those *-ende* attributive adjectives which are considered fixed in Danish.

5. Regrouping of similarities and differences; corollaries

The material discussed so far is here regrouped and summarized.

5.1. RECAPITULATORY TABLE

-ant attributive adjective	*-ende attributive adjective*
I. GROUPS OF FORMS AND TRANSFERS[5]	
Gr. 1: always adj.	*Gr. 1*: always adj.
Gr. 2: (pres. part.: 2a) adjectives: 2b	*Gr. 2*: (pres. part.: 2a) adjectives: 2b
Gr. 3: (pres. part.)	*Gr. 3*: (pres. part.)
Transfer from 3 to 2b:	*Transfer from 3 to 2b*:
a) *Compounds*: postposition & anteposition to the noun	a) *Nominal syntagms*: anteposition to the noun;
Noun: sem. cat. 'human' not represented	*Noun*: all. sem. cats.
Frequent	Very frequent
b) *Nominal syntagms*: with marks of the attributive adjective	b) *Compounds*: anteposition to the noun
Noun: sem. cat. 'human' not frequent	*Noun*: sem. cat. 'human' not frequent
Not very frequent	Rare
In principle, transfers a) and b) always possible	In principle, transfers a) and b) always possible
In practice, syntactic and semantic factors restrict the transfers	In practice, no restrictions
Not frequent	Frequent
II. MEANING AND FIXATION OF TRANSFERS	
Often figurative meaning, sometimes 'shifted' meaning (depending upon context)	Figurative or 'shifted' meaning (depending upon context)
Fixation of transfers very frequent, leading to entry in dictionaries	Fixation of transfers not very frequent, leading to entry in dictionaries only if fixation is clear.

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[5] The following abbreviations are used in the text: gr.: group; cat.: category; adj.: adjective; pres. part.: present participle; sem.: semantic.

III. COLLOCATIONS

Sem. cats. of nouns qualified:	*Sem. cats. of nouns qualified*:
— 'abstract'	— 'abstract'
— 'inanimate'	— 'inanimate'
— 'animate non-human' not very frequent	— 'animate non-human'
— 'human' only if adj. has a figurative meaning (gr. 1 & 2b)	— 'human'
Collocations may be very restricted (usually included in dictionaries)	Not necessarily any collocations (sometimes included in dictionaries)

5.2. Corollaries

It should be emphasized that since the interpretation of the *-ant* and *-ende* attributive adjectives depends on the context (cf. p. 44 ff.), it is not possible to give hard-and-fast rules of translation but some general principles can be suggested. The transfer in French and Danish of present participles to attributive adjectives is always possible in principle. But the conditions under which it occurs in both languages characterize and differentiate the use of these attributive adjectives in French and Danish.

It is clear that because of the high frequency of *-ende* attributive adjectives and the relative rarity of *-ant* attributive adjectives, it will be necessary to resort to other constructions in French. The characteristics of both attributive adjectives should be taken into account when translating:

1. The *-ant* attributive adjective generally has a very precise figurative meaning. The *-ende* attributive adjective may have different meanings. Consequently an *-ant* adjective does not always correspond to an *-ende* adjective (cf. exx (1) and (2), p. 38).

2. The collocations of the *-ant* attributive adjective are very often restricted and the nouns that are qualified do not often belong to the semantic category 'human'. The collocations of the *-ende* attributive adjectives are not always restricted. Consequently an *-ant* attributive adjective cannot always be used as equivalent to an *-ende* attributive adjective (cf. exx. (2) and (3), p. 38).

3. The concept of state without limitation in time is a concept which is much too relative and vague to apply in practice. Consequently an *-ant* attributive adjective may correspond to an *-ende* attributive adjective (cf. ex. (4), p. 39).

4. The compounds are more frequent in French than in Danish. Consequently a Danish compound does not always correspond to a French compound:

rosier grimpant (*climbing rose*)→*klatrerose*, *corps enseignant* (*teaching staff*)→ →*laererstab*, etc.

Finally, in all cases in which corresponding attributive adjectives in *-ant* and *-ende* do not exist, other elements should be used. Because of the part played by the context in both languages, it is extremely difficult to make a list of all possible translations. Although it is my experience that it is preferable not to suggest one or two translations in print, because the role played by the context is often fundamental for translation, these numerous possibilities have here been illustrated throughout.

Non-native speakers should be told that if they do not wish to deviate from what might be called 'standard French', they should use only the *-ant* adjectives that they find recorded in French dictionaries and make sure of their meanings (cf. *repoussant* (cf. ex. (1) p. 38) and of their possible collocations (cf. *riant* (cf. ex. (3) p. 38).

It should also be explained to them that when the present participle is transferred to the adjectival class, the change in meaning may be either substantial or slight. This can also apply to transfers in Danish. It should again be explained to them in what manner the transfers occur in both languages.

Finally, it should be explained that the choice of the participle and of the attributive adjective — provided the latter exists in French — is determined by what one chooses to express. Above we have seen examples of adjectives whose meanings differ substantially from that of the participle. There exist, however, some *-ant* adjectives whose meanings do not differ from that of the participle, like e.g. *luisant* (*shining*). In those cases, and when the form is followed by a non necessary expansion, one may use either the participle or the adjective, as in e.g. *des yeux luisant/luisants de bonheur* (*eyes shining with happiness*). I have, however, noticed that their is a strong tendency to use the adjective when the non-specific expansion expresses manner.

Some conclusions

The functional viewpoint of dynamic synchrony has enabled me to point at the conditions under which the present participles are transferred to the adjectival class in French and Danish. This viewpoint has enabled me to outline the differences between French and Danish as regards the transfer of the present participles.

In French, the participle is most frequently transferred into compounds. In these compounds the *-ant* attributive adjective usually qualifies a limited number of nouns. Such compounds may become fixed in common use; in the course of time, the *-ant* adjective can, then, loosen its links to the noun of the compound and be used freely in nominal syntagms.

In Danish, the movement is of an opposite nature. Here the present participle is most frequently transferred into nominal syntagms. In the course of time the *-ende* adjective may, then, become fixed in compounds whose collocations may be limited to few nouns.

Some of the questions which this study leaves open is to establish how transfers become fixed in language and how we are to deal with neologisms in dictionaries and terminology banks.

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ON PROPER "IMPROPER ANSWER"

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1.0. In recent writings on generative semantics, great importance has come to be attached to the way context influences what is being said. Due to these investigations it has become apparent that many sentences hitherto considered semantically deviant turn to be quite proper, and fully and easily understood if they are looked upon not in an idealized speech situation but in their full situational context. Therefore it is no longer possible to establish unified sets of rules governing particular speech acts, predicting what can be considered a semantically proper or improper statement, command, question, answer to a question, etc. Trying to explain the various ways in which language operates some linguists formulated "rules of conversation" (cf. H. P. Grice, 1967, Gordon, D. and G. Lakoff, 1971, also Robin Lakoff, 1973a).

1.1. Robin Lakoff (1973a) states that we follow pragmatic rules in speaking just as we follow semantic and syntactic rules, and all of them must be part of our linguistic rules. There are two rules of pragmatic competence, namely: (1) Be clear and (2) Be polite. The rules of clarity have been worked out by Grice (1967) as rules of conversation. These are the following:

1. Quantity:	Be as informative as required
	Be no more informative than required
2. Quality:	Say only what you believe to be true
3. Relevance:	Be relevant
4. Manner:	Be perspicuous
	Don't be ambiguous
	Don't be obscure
	Be succinct.

Apart from these there exist, according to Robin Lakoff, three rules of politeness: (1) Don't impose, (2) Give options, (3) Make your interlocutor feel good

— be friendly. According to Robin Lakoff, Grice's rules of conversation are a subtype of the first rule of politeness, R1.

1.2. We are of the opinion that even these rules cannot handle all the cases of language use. For instance, the problem of how one should account for the linguistic phenomenon of Proper Answer seems quite difficult. By Proper Answer we understand a response to a question which fulfils the speaker's assumption that he will get a reply, as well as the presupposition of the question itself, which can be, loosely speaking, that the information included in the question is true.

If the speaker asks:

1. Are you hungry?

he expects the addressee of the question to state whether *he is hungry* or *he is not hungry*. This is, generally speaking, the way Yes — No Questions operate in a language. There may be some conversational implicature (cf. Grice, 1967) included in this question but we are going to discuss this in later sections of our article. Thus, one can say that with Proper Answers Robin Lakoff's R1, i.e., Don't impose, is violated; or one can even say that it has to be violated if the response is to be understood as Proper Answer. In the case of Yes — No Questions R2 — Give options operates along with R1, and thus neither of them is observed. The linguistic and pragmatic character of Yes — No Questions is such that they impose on the addressee what kind of response is expected. This is more strongly manifested by Disjunctive Questions, eg.:

2. Are you hungry or thirsty?

Similar remarks can be made about Wh — Questions. If one asks:

3. How did you get to the party?

one does not expect (3a) in reply:

3a. Yesterday.

The speaker violates R1 — Don't impose, but if he did not violate this rule he might as well not seek the information. If the speaker asks HOW, he cannot be satisfied if he gets WHEN in reply.

As for R2 — Give options, it can operate with WH-Questions only in the way that it allows the addressee to choose from all the members of a given Wh-set the one that is according to his knowledge of the world the true one.

1.3. The addressee can opt out in his reply, thus not fulfilling the speaker's request for information. (3a) is an example of a situation like this. Similarly, he can respond to (1) and (2) by (1a) and (2a), respectively:

1. Are you hungry?

1a. I don't know,

2. Are you hungry or thirsty?

2a. Both.

Responses like (1a, 2a, 3a) have come to be known in linguistic literature as Improper Answers. Within the large group of Improper Answers there have been distinguished such subtypes as Evaluations, Evasions, Replies, etc. (cf. E. Iwanicka, 1976, and R. Lakoff, 1973b). In the present article we are interested in how these improper answers can be rendered proper providing they are looked upon not in a context-less prescriptive manner, but in their full social and situational context. We will contrast examples from English and Polish, and thus we will check whether the social and situational factors of a given speech situation have similar importance and consequences for understanding utterances in English and Polish.

2.0. Let us consider a simple question-answer situation:

4. Are you busy?

(4) constitutes a Yes — No Question. When asking it the speaker assumes that he will get a reply from the hearer in which he will state that either he is busy or he is not not busy. Thus (4a) and (4b) will fulfil the speaker's expectations, while (4c) will not:

4a. Yes, I am.
4b. No, I'm not.
4c. It's none of your business.

(4a) and (4b) constitute proper answers to (4), while (4c) is an improper answer as it does not provide the requested information; it also violates R. Lakoff's "Be polite" rule. Similar observations can be made about Polish:

4'. Czy jesteś zajęty?
4a'. Tak, jestem.
4b'. Nie, nie jestem.
4c'. To nie twoja sprawa.

2.1.1. Let us now add context to this linguistic situation. Imagine that (4) is asked by a mother and (4c) is uttered by her child. (4) is a properly formulated question whereas (4c) is not only an evasion to the question, but is very rude as well. No mother could be happy about receiving a response like this.

2.1.2. Imagine now that A and B are good friends and they have quarrelled some time ago. A wonders if enough time had passed for them to be on speaking terms again and asks (4). If he receives (4c) as a response he will probably not be dissatisfied or offended. This seemingly incoherent sentence will carry vital information for him, one that he alternatively expected. He will learn that he still has to wait for a while until all the unpleasantness is forgotten. Notice that with this case it is difficult to predict whether the "be polite" rule is violated or not.

2.2.0. If a Polish mother learns from her child that it is not her business ("To nie twoja sprawa") to know if the child is busy or not she will feel offended and, of course, she will still not know if the child is busy or not.

2.2.1. If a Pole is trying to start a conversation with his friend with whom he had an argument a little while previously and he hears that it is none of his business ("to nie twoja sprawa") to take an interest in whether the friend is busy or not, he realizes that he has to be a bit more patient before things look up for them again.

3.0. As has been said, one usually asks a question because he wants to know "whether S or not-S", or WHO, or WHY, or WHEN, etc., somebody did something. How would, then, a speaker react if to his question:

4. Are you busy?

the addressee responds:

5. I'm reading a book.

According to R. Lakoff's rules of conversation concerning Questions, the speaker assumes that he will get a reply. (5) is a reply, but it is certainly different from the already discussed (4a) and (4b). From the paradigmatic character of the question — answer relation it is clear that (5) does not fulfil the speaker's expectations. Depending on the situational context in which this exchange of sentences occurs (5) can perform various functions.

3.1.0. If the conversation is, for instance, between a mother and her child, or between two friends, then (5) will, most probably, be treated on a par with (4b), i.e., "No, I'm not busy". To justify our point we would like to remark that (5) very often appears in a slightly modified version as:

5a. No, I'm reading a book.
5b. Well, I'm reading a book.

The full reading for (5a) is "No, I'm not busy and that is why I'm reading a book".

(5b) has a different gloss. The introductory "well" marks the response as hesitant. The hearer leaves it for the speaker to decide whether what he is doing can be considered being busy or not. The reading for (5b) is something like the following: "I'm reading a book now but if you want me to do something else I may do it". In our speech situation, after saying (5) the interlocutor is usually requested or told to do something for the speaker.

3.1.1. The above remarks cannot be by any means considered schematic. Notice what happenes if the the interlocutor utters (6) instead of (5), the context being the same:

4. Are you busy?
6. I'm doing my lessons.

With most mothers and fathers, and friends (if they are good friends), (6) is no longer equivalent to (4b), "No, I'm not busy". On the contrary, it is always understood as "Yes, I'm busy". We have just overheard a conversation in Polish between a mother and her 10-year-old son:

4'. Czy jesteś zajęty?
6'. Nie, właśnie odrabiam lekcje.
7'. Odrabiasz lekcje? To dlaczego mówisz, że nie jesteś zajęty?
(4. Are you busy?

6. No, I'm doing my lessons.
7. You're doing your lessons? Why do you say, then, that you're not busy?).

(6), and (6'), carry different conversational implicatures for A — the speaker, and for B — his interlocutor. For B, saying (6) is implicating that he is not busy, while A's evaluation of the implicature is the opposite, i.e., "B is busy". In this apparent clash of implicatures the party that wins is this that is of higher social rank and has the right to impose his or her decisions upon the other party.

4.0. Conversations in natural language seem to disobey the pattern of correctness linguists would like to impose on them. Consider another example of a question-and-answer exchange:

4. Are you busy?
8. Why do you ask?

Again, if it occurs between a mother and her child, or between a brother and a sister, or two brothers or two friends — generally speaking between people who know each other well and who are on friendly terms, the speaker usually does not insist on eliciting from the hearer whether he is busy or not but continues to explain why he asked the question. He can say for instance:

9. I just wanted to know if you're busy or not.
9a. I want you to go shopping.
9b. I wondered if you could go shopping, etc.

Robin Lakoff's rules of politeness are observed here, therefore the conversation can be continued.

4.1. Compare the same in Polish:

4'. Czy jesteś zajęty?
8'. Dlaczego pytasz?
9'. Po prostu chciałam wiedzieć, czy jesteś zajęty czy nie.
9a'. Chcę, abyś poszedł po zakupy.
9b'. Zastanawiam się, czy mógłbyś pójść po zakupy.

Neither in English nor in Polish (8) and (8'), which are improper with respect to the idealized, context-less classification into proper and improper answers to questions, violate the rules of conversation by stopping it, cutting it short, etc. They carry conversational implicatures with them which are understood by the interlocutors, thus enabling the conversation to be continued.

4.2. However, if the same question — answer situation occurs between a boss and his employee, saying (8) can, and usually is, considered inappropriate, for it violates the rules of a conversation between two perons, one of whom is of higher social rank than the other. It is in a context like this that the notion of a proper answer to a question applies. (4a) and (4b) are proper answers, whereas (8) is improper, for no-one's request for information addressed to the hearer can be fulfilled by another request for information, and we have not yet considered the sociolinguistic consequences of uttering (8) instead of (4a) or (4b).

4.2.1. It is in a situation like this that Grice's rules of conversation have to be observed. According to R. Lakoff, they have to be observed whenever the conversation is formal, as are, for example, business conversations or academic lectures.

5.0. We would like to provide yet another example of how a response to a question can be proper in one context and improper in another. Consider the following:

4. Are you busy?
10. Do you want me to do something?

where (10) is uttered in response to (4). This exchange of utterances illustrates what often happens between people who know each other well. There exists some sort of close personal relationship between the speaker and his addressee. Therefore the latter hearing the question assumes that the only reason for the speaker to ask it has been because the speaker wants him to do something. This information is clear in advance and that is why, instead of answering (4), he immediately inquires about the speaker's intention in asking (4). (10) often appears in an even stronger form as:

10a. What is that you want me to do?

Where the personal relationship is of very strong type, as, for instance, between a parent and his child, or a wife and a husband, the question-response exchange can even take this form: the hearer sees the speaker entering the room with a shopping bag in her hand and asking:

4. Are you busy?

and the response she gets is:

11. O. K., I'm going shopping. What am I to buy?

It might not have been the speaker's intention to elicit from the hearer a response like (11), but when she gets it she is not dissatisfied with if for, in fact, the real reason for asking (4) is to make the addressee go shopping.

5.1.0. Here again the conversational implicature operates. The rules of clarity and politeness are observed and the result is the expected one.

5.2. If sentence (11) or (11a) is uttered in our second context, i.e., by an employee (B) to his boss (A) it strongly violates the rules of conversation imposed by the context. The main violation occurs here on the level of pragmatic competence. First of all, the "Be polite" rule is not observed. Consequently, B is not clear about whether he is willing to do any job for A or not. In effect he sounds rude and A has all the reasons to feel offended. In this speech situation, apart from violating the semantic requirements of the question-answer relation, sociolinguistic rules are also violated.

5.3. Again, as in case of previous examples, a parallel analysis can be carried out for Polish. Compare:

4'. Czy jesteś zajęty?

10'. Czy chcesz, abym coś zrobił?

10a'. Co mam zrobić? (Co chcesz, abym zrobił?)

If (10) or (10a) is uttered by a husband to his wife there is nothing surprising about it, and nothing deviant, of course. After all, people who know each other well and understand each other well can communicate without using words. There are situations where looks and gestures can successfully substitute verbal acts of communication.

5.4. As for the second context, i.e., a conversation between a boss and his employee whom he sees or talks to for the second or third time only, it is very improper for the employee to respond by (10') or (10a'). The only admissible type of response here is (4a') or (4b'), ie., a "proper answer" for a speech situation like this. Notice, too, that when the hearer responds to:

4'. Czy jesteś zajęty?

by mere (4a'):

4a'. Tak, jestem.

it may also be received as an ill-will response. If one is to provide a full positive answer to a question asked by someone who is of far higher social rank than the addressee himself, he has to explain why he is busy. The boss asks (4) not just because he wants to learn whether his employee is busy or not, but because he wants to give him some assignment. Thus the answer expected in a situation like this is something like the following:

4'. Czy jest pan zajęty?

4d'. Tak jestem. Właśnie przepisuję pańskie listy.

5.4.1. Exactly the same can be observed in English:

4. Are you busy?

4d. Yes, I am. I'm just typing your letters.

If instead of (4d) the interlocutor said (4a), ie., "Yes, I am", the speaker would immediately ask (4e):

4e. What are you doing?

and only after receiving an answer to this question he would be able to decide whether the hearer should continue his present job or whether he could be given some other assignment.

6.0. The present article is intended as a small contribution in support of that aspect of the theory of generative semantics which stresses the importance and necessity of discussing various linguistic phenomena within the broad situational context in which they occur. We have tried to show that a number of responses would appear semantically deviant with respect to the speakers' assumptions and presuppositions were not context taken into consideration. The examples we have provided may not be the best ones nor the most crucial ones, but they can all be found in the languages we use.

The analysis we have carried out for Polish and English has shown that the two languages are similar not only with respect to their syntactic and semantic structures but also in the way the speakers of these two languages use them in various contexts to respond to questions.

6.1. We would like to point out again that language is used by people in ever-changing situations and if a linguistic theory attempts to provide a thorough description of a natural language and the way it is used, it cannot forget about the importance of context. Generative semantics is the theory which has postulated the importance of context and description of language use as opposed to language as such, but even within this theory many investigations are carried out towards idealized speaker — hearer exchange of utterance instead of making them pragmatic studies.*

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LATENT BILINGUALISM

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1. Introduction.

The main psychological problem which faces the adult learner beginning a foreign language is the enormous discrepancy between what he would like to say in the new language and what he is capable of saying in it; in other words, between the high level of sophistication characterizing his use of his native tongue and the necessarily low, almost infantile, level of the utterances he can produce in the language he is trying to master.

It would seem, however, that the learner can achieve quite a high degree of complexity and efficiency of communication (which must not be confused with linguistic sophistication, or even correctness) with the help of a relatively modest grammatical machinery; provided, though, that he has a rich vocabulary. Thus, command of an extensive vocabulary appears to be the necessary condition for meaningful communication and, consequently, the best way to combat frustration and to avoid loss of motivation: the two dangers that beset the adult beginner. Therefore one of the most important tasks for the course designer and the teacher is to find a way of helping the learner to accumulate a fairly large stock of lexical items within the first few weeks of his work on the language.

In the case of closely related languages this task is comparatively easy, since the teacher can concentrate on cognates. This has been tried, notably with English and the Scandinavian languages. However, it involves two risks. Firstly, the learner may be led to believe that practically the whole of the vocabulary of the new language consists of cognates. This may result in disillusionment and subsequent loss of desire to learn when the learner discovers that his assumption was false. Secondly, there is the danger represented by false cognates and other "deceptive words".[1]

A different situation arises in the case of two languages which are unrelated or related only distantly, so that there are very few lexical items that the learner is likely to recognize as cognates. Russian and Portuguese can be quoted as examples. In this case vocabulary acquisition is a particularly difficult task.

The situation is different again when the language to be learnt has for some time served as an important source of loan-words in the learner's native tongue. This occurs, among others, when the target language is a world language, and English is the most characteristic example here. The loan-words can then be used to introduce the learner to the lexical system of English — and, incidentally, to English pronunciation and spelling.[2] This, too, has been tried; in Poland, among other countries. The emphasis, however, has been on using loan-words to illustrate English sounds and spellings.

The solutions outlined so far have all been only partial. It seems that the aim of supplying the learner, in the shortest possible time, with enough vocabulary to enable him to start communicating can be reached only if we do not confine our attention solely to loan-words, but look for and utilize the largest possible number of those elements of the lexical system of the target language which the learner can be expected to find easy to assimilate. These fall into three major classes, which we propose to call interlingual synonyms, unassimilated loans, and "linguistic folklore" borrowings.

2. Interlingual synonyms.

The first one of the classes of items mentioned above comprises all those words and phrases which are shared by the lexical systems of both languages (i.e., the target language and the learner's native tongue) and so are likely to be understood by the learner in their target-language form on the basis of their spelling, their pronunciation, or both. They fall into several categories, which will be illustrated here with material taken from English as the target language and Polish as the learner's native tongue.

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[1] For an analysis of "deceptive words" in Polish see Jerzy Wełna (1977).

[2] This can be done in two ways that are complementary to one another. One is to present the learner with words from his native language which are spelled identically with their English counterparts, and emphasize the pronunciation differences. The other is to present loan-words from English whose pronunciation resembles very strongly their original English pronunciation but which are spelled differently; the emphasis here would be on the differences in spelling. In both cases the aim is to take advantage of the feeling of strangeness experienced by the learner, which is likely to arouse interest and facilitate memorization.

1. English loan-words in Polish,[3] eg.:

E. barman	P. barman
E. bikini	P. bikini
E. hobby	P. hobby
E. motel	P. motel
E. radar	P. radar
E. start	P. start
E. sweater	P. sweter
E. wigwam	P. wigwam

2. Words based on Greek and Latin stems, common to English and Polish (irrespective of how they found their way into Polish), eg.:

E. actor	P. aktor
E. export	P. eksport
E. instrument	P. instrument
E. telephone	P. telefon

3. Words from other languages which were borrowed independently both by English and by Polish, eg.:

E. algebra	P. algebra
E. casino	P. kasyno
E. slalom	P. slalom
E. sputnik	P. sputnik

It is suggested that pairs of words of these kinds be called ***interlingual synonyms***; for short, *internyms*. They can be defined as pairs of words, one in language A and the other in language B, such that the meaning of the language-B word is the same as at least one (possibly more) of the meanings of the equivalent language-A word, and at the same time the two words are so similar in spelling, pronunciation, or both that the language-A word can be readily understood by native speakers of B who have never learnt A.

As can be seen from the subclassification presented above, the class of interlingual synonyms for language A and language B is not coextensive with the class of language-B borrowings from A (or vice versa). Thus the approach to teaching vocabulary proposed here differs from the attempts at using only cognates or loan-words as basic lexical items in a beginners' course.

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[3] Three subcategories can be distinguished here: a) native English words (eg. *barman, hobby, sweater*); b) words from other languages borrowed via English (eg. *bikini, wigwam*); and c) artificial creations (eg. *motel, radar*). This subcategorization, however, is not relevant for our discussion here.

The most extensive analysis of English loan-words in Polish is to be found in the work of Jacek Fisiak; mainly in his "English sports terms in Modern Polish" (Fisiak 1964), "Phonemics of English loanwords in Polish" (Fisiak 1968), and "The semantics of English loanwords in Polish" (Fisiak 1970).

3. Unassimilated loans.

The second major class of items in the target language which the learner can be expected to recognize as familiar (and, consequently, easy to learn) comprises words and phrases which have not been assimilated into the learner's native tongue but are nevertheless used by many speakers, in their foreign-language form; in quotes, as it were. This class is particularly well represented when the target language is a world language like English. Again examples will be taken from English in Poland: *beer, coffee, make-up, open* (ticket), *rally, science-fiction, snack bar*. The term proposed for items of this kind is *unassimilated loans*. They differ from interlingual synonyms in two respects. First, the Polish elements of interlingual synonymic pairs constitute part of the Polish lexical system and therefore take inflexional endings and derivational suffixes exactly the same as other Polish words. Secondly, all of them have become polonicized in their spelling. Unassimilated loans, on the other hand, are not inflected and retain their English spelling. More careful speakers may even try and imitate their original English pronunciation.

Semantically, items of this kind are taken over either in their central—or, perhaps, sole—meaning (eg. *beer, science-fiction*), or in one of their peripheral meanings (eg. *break*, used as a command in boxing).

The boundary between interlingual synonyms and unassimilated loans is not firm: English vocabulary items are being assimilated into Polish all the time. There is a clear subclass of items representing an intermediary stage, namely words and phrases which are used as if they were completely assimilated into Polish, ie., are inflected and, in some cases, take on Polish derivational affixes, but which at the same time retain their original English spelling. Examples: *blues, quiz, show, week-end*. A few items exist in two spelling versions, eg. *coctail* and *koktajl* (the former particularly in the phrase *cocktail bar*). Items of this intermediary character will be referred to as *part-assimilated loans*.

A good example of the rapidity with which the process of assimilation of loan-words sometimes occurs is the phrase *strip-tease*. It is a very recent importation into Polish and for a brief period of time it had the status of an unassimilated loan. It is now, however, crossing the boundary line and becoming simply a loan-word of the internym type: in informal use it is more and more often spelled *striptiz*, and takes on Polish derivational morphemes, eg. *striptizerka* 'strip-tease dancer'.

4. "Linguistic folklore" borrowings.

The third class of items in the target language which are likely to be familiar to the learner comprises complete uterances in that language which have become part of the "linguistic folklore" of the learner's native tongue. Again examples will be taken from English in Poland: *goodbye, O.K., made in Poland, thank you, I love you, Do you speak English*? The list of items of this kind is not long; yet they seem particularly useful in teaching, since they not only afford a chance of introducing the learner to the lexical system of the target language and to its pronunciation and spelling, but can also serve as examples of certain syntactic patterns.

5. Interlingual synonyms: discussion.

A tentative list of English-Polish interlingual synonyms, unassimilated loans, and "linguistic folklore" borrowings is presented in Section 7. Here, by way of introduction, is a brief general discussion of its contents.

Unassimilated and part-assimilated loans do not seem to present problems. Individual items may or may not be known to the learner; but if the learner recognizes an item, he will almost certainly interpret it correctly—even though his interpretation may be restricted to only one of the meanings which this item has in English. It is the interlingual synonyms that call for comment.

a) Spelling and pronunciation.

The definition of interlingual synonyms given above (in Section 2) begs the question of how similar a language-A word should be to its counterpart in language B in spelling and/or pronunciation to be readily understood by native speakers of B. The problem is empirical rather than theoretical in nature since the answer in each case depends in the last resort on informants' reactions. It seems therefore that instead of formulating rules we should examine the evidence and try and discover the tendencies underlying the informants' reactions.

As far as spelling is concerned, the most obvious candidates for the list of interlingual synonyms are words spelled identically in both languages. Even from the short lists of examples quoted in Section 2 it can be seen that at least as far as English and Polish are concerned, identically spelled internyms are quite numerous. It is quite clear, of course, that identity of spelling is not necessarily paralleled by identity of pronunciation.

The next group consists of words which are spelled differently in each language, such differences, however, being relatively slight and regular; resulting from different spelling conventions in each language. Thus, for example, although double consonant letters are hardly ever used in Polish, they do not seem to present a problem to the Polish learner when he encounters them in English. To give just a few examples, the English words *professor, bulldog,* and *tennis* are immediately recognized as the internymic equivalents of the Polish words *profesor, buldog,* and *tenis*. This is presumably influenced by the fact that in English pronunciation double letters do not stand for either double consonants or long consonants.

If the only spelling difference between an English word and its Polish internymic equivalent lies in the use of a letter or letters which are not normally used in the Polish alphabet, this does not seem to act as an obstacle to understanding. This refers mostly to words containing the letters *x* and *v*: such as *boxer, sex,* or *revolver,* which are easily interpreted as the equivalents of the Polish words *bokser, seks,* and *rewolwer*. Again, pronunciation is a contributory factor. Interestingly enough, no words with the graphemic cluster *qu* (alien to Polish) appear on the list of English-Polish interlingual synonyms.

Another spelling convention of English which an average educated speaker of Polish is familiar with is the use of the letter *c* and the cluster *ck* for the sound /k/. Examples are very numerous: *cowboy, actor, cocktail, tonic, club* — to quote just a handful.

Two more English spelling conventions (shared also by several other European languages) seem to be familiar to many native speakers of Polish: the use of *ph* as the graphic representation of the phoneme /f/, and the use of *y* in the environment of a vowel letter to express the semivowel /j/. Examples: *cowboy, yacht, photo, saxophone.*

Pronunciation similarities are more difficult to define than spelling similarities. Analysis of the list of English-Polish interlingual synonyms seems to suggest two observations. The first is that internymic pairs based on similarity of pronunciation are fewer in number than pairs based on similarity of spelling. The other observation is that, predictably, native speakers of Polish interpret English words in terms of the Polish phonological system. As a result the English consonants remain largely unchanged (in phonological, not in phonetic terms), the exceptions being /θ/, /ð/, and /ŋ/, while the vowels become reinterpreted to fit the Polish vocalic system, which is simpler both in terms of its phonemes and in its phonotactic and prosodic rules.

The next question is, in how many respects a language-A word can differ in spelling and/or pronunciation from its counterpart in language B and still be recognizable as its internymic equivalent. In other words: we have to decide where we should draw the line between pairs of interlingual synonyms and pairs of words, one from language A and the other from language B, which are not sufficiently similar in spelling or pronunciation to be easily recognized as related. Again it has to be stressed that the problem is empirical and not theoretical in nature, since the ultimate aim of our search for internymic pairs is facilitation of the learning process, and the final judges are the learners themselves.

The solution adopted here has been to exclude all pairs of words which differ both in spelling and in pronunciation to a degree which makes recognition problematic; for example, English *jam*, Polish *dżem*. This applies particularly to cases in which the Polish word is longer by a syllable and has an additional vowel letter at the end; for example, English *aspirin*, Polish *aspiryna*. As far as complex morphemes are concerned, all those have been excluded in which there is a difference in the phonemic (and graphemic) shape of the derivational suffix between the English word and its Polish equivalent. This has eliminated such suffixal pairs as E. *-ic*, P. *-iczny/-yczny*; E. *-ist*, P. *-ista/-ysta* or *-istyczny/-ystyczny*; E. *-ar*, P. *-arny*; E. *-al*, P. *-alny*; E. *-ize*, P. *-izować*; and many others — including, for the sake of consistence, the "easy" pair: E. *-ism*, P. *-izm/-yzm*. An additional argument in favour of excluding all such pairs is that in many cases relative formal similarity of morphemes is not here paralleled by semantic affinity; the phenomenon analysed in detail in Wełna's paper on "deceptive words", mentioned above (see note 1).

b) Semantic analysis.

The next problem is the degree of synonymity of items recognized by informants as interlingual synonyms. It appears that in the majority of cases the synonymity is perfect. Examples are easy to find: *barman* — *barman*, *poodle* — *pudel*, *jeans* — *dżinsy*, *zoo* — *zoo*, *tennis* — *tenis*, *judo* — *dżudo*,[4] and so on. When synonymity is only partial, it is almost always the Polish item that is restricted in meaning.[5] Thus, for example, in Polish the word *twist* is only used as the name of a dance or the name of a jar with a twist-off lid, while in English it has several meanings, both as a noun and as a verb. The Polish word *kamera* means 'film camera': its meaning is thus narrower than that of the English word *camera*. In Polish *mityng* is a sports term, while in English *meeting* refers to any gathering of people.

Lack of perfect synonymity seems particularly frequent with words referring to people. The pair *conductor* — *konduktor* can serve as a good example. The Polish word *konduktor* denotes the man who sells or checks tickets on buses and trains. In English the word has several meanings, and the situation is further complicated by the fact that there is a difference in usage between British English and American English:

→ przewodnik (of electricity)
→ dyrygent (of an orchestra)
conductor → konduktor (on a bus or, in U.S., on a train)
guard (Br. E.) → konduktor (on a train)

---

[4] Perfect synonymity exists only between the *English* word *judo* and its Polish equivalent (*dżudo*), and not between these words and their Japanese source, which means "gentle method". The same, of course, is true of the majority of those interlingual synonyms which, etymologically, are derived from languages other than either English or Polish.

[5] As far as borrowings from English are concerned, this phenomenon was described by Fisiak in his "Semantics of English loanwords in Polish" (see note 3).

It is very rare for the Polish part of the interlingual synonymic pair to be wider in meaning than its English equivalent. Examples: Polish *koncert*, English *concert* or *concerto*; Polish *magazyn*, English *magazine* or *warehouse*.

There is another, small category of internyms which deserves comment. It consists of those English loan-words in Polish which were borrowed in their English plural form but function as nouns in the singular.[6] Examples:

E. hippie(s)	P. hipis	'a hippie'
E. cracker(s)	P. krakers	'a cracker'
E. comic(s)	P. komiks	'a comic strip'

The reason for this is, presumably, that in the contexts from which these nouns were borrowed they appeared in the plural.[7]

A word of warning is in order concerning *pseudo-internyms*: pairs of words which are related semantically in a way which is misleading to the learner. This happens when the native-language element of the pair is used in a meaning which is only marginal for its foreign-language counterpart, or when the native-language element develops a specialized meaning in which its foreign-language counterpart is not used at all. The English-Polish pseudo-internymic pair *speaker* — *spiker* can serve as a good example. The Polish word *spiker* means 'radio (or TV) announcer': a meaning in which its English counterpart is not used. Needless to say, pseudo-pairs of this kind are not included in our list of interlingual synonyms.

All that has been said in this section leads to the conclusion that in teaching a foreign language the internymic pairs have to be handled carefully. It seems advisable both to use them always in context and even, perhaps, to caution the learner expressly against pseudo-internyms, deceptive cognates, and other "faux amis du traducteur". They are not, however, unique in this respect, since the same can be said about teaching many other vocabulary items. In any case, the advantages of using internyms and unassimilated loans in the early stages of teaching clearly outweigh possible risks.

6. Collection procedure.

To collect English-Polish interlingual synonyms, part-assimilated and unassimilated loans, as well as Polish "linguistic folklore" items of English origin, the following procedure was adopted. A tentative list of items from all the three classes was drawn up and presented to a number of native speakers of Polish, of whom some knew English and some did not. Interlingual synonyms were presented in their English version. The informants were asked whether in their opinion the items presented would be recognized and interpreted correctly by a non-English-speaking Pole, on the basis of their spelling, their pronunciation, or both. They were also asked to expand the list.

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[6] For a discussion of this phenomenon see Fisiak's "Zjawisko depluralizacji niektórych rzeczowników angielskich zapożyczonych przez język polski" (Fisiak 1961).

[7] English *jeans*, Polish *dżinsy*—another candidate for the list of internymic pairs—represents the category of "summation plurals". For a recent discussion of this and related phenomena see Randolph Quirk's "Grammatical and pragmatic aspects of countability" (Quirk 1978).

The final list turned out to be unexpectedly long, but the responses of the informants varied considerably. The variation was a function of two factors: the informant's sex and age, and the semantic field invoIed. Thus a person interested in sports would consider English sports terminology to be instantly recognizable; on the other hand a person interested in politics and economics might find sports terms unfamiliar but recognize and comprehend instantly terms used in political journalism.

In view of that the obvious conclusion was to look for a "common core" of internyms and unassimilated loans. Rather unexpectedly, this turned out to be a problem. For each informant the stock of items of these kinds was usually quite large, but individual variations depending on sex, age, and semantic field were surprisingly wide. At the same time most informants were quite dogmatic in their responses. "It is quite obvious to everbody, of course, what this word means" was the characteristic reaction; only what was obvious to person X proved to be only dimly recognizable to person Y, and completely alien to person Z. The area of general consensus — the "common core" of internyms and unassimilated loans — turned out to be quite difficult to establish, as it called for too many arbitrary decisions. As a result the final list (given below) includes all those items which were accepted by a reasonable number of informants, and no attempt is made to divide the items in each semantic field into "core" and "peripheral".

7. List of English-Polish interlingual synonyms and unassimilated loans.

This section contains a tentative list of English-Polish interlingual synonyms, and of part-assimilated and unassimilated loans from English in Polish, grouped according to semantic fields. Interlingual synonyms are listed as "Class A" items, unassimilated loans as "Class B" items. Part-assimilated loans are listed together with unassimilated loans, but marked with a dagger.

The list as it stands is, doubtless, incomplete: more items could be added to each category. It has to be emphasized, however, that the present paper does not aim at exhaustive enumeration of vocabulary items of the types described above; its objective is merely to present and discuss the issue.

PEOPLE

General terms

Class A		Class B
cowboy	kowboj	lady
gentleman	dżentelmen	Miss
hippie(s)	hipis	Mr.
lord	lord	+old boy
		+playboy
		sir

Professions and occupations

Class A		Class B
actor	aktor	+businessman
barman	barman	+clown
conductor	konduktor	+disc-jockey
detective	detektyw	guru
director	dyrektor	
doctor	doktor	
farmer	farmer	
gangster	gangster	
general	generał	
inspector	inspektor	
major	major	
mechanic	mechanik	
minister	minister	
pilot	pilot	
president	prezydent	
professor	profesor	
reporter	reporter	
sheriff	szeryf	
steward	steward	
student	student	

DOGS

Class A		Class B
boxer	bokser	basset hound
bulldog	buldog	collie
poodle	pudel	
terrier	terier	

CLOTHING

Class A		Class B
jeans	dżinsy	bikini
nylon	nylon	maxi
pullover	pulower	midi
shorts	szorty	+mini
sweater	sweter	+non-iron
		+tweed

FOOD

Class A		Class B
broiler	brojler	curry
cracker(s)	krakers	+hot dog
grapefruit	grejpfrut	instant (coffee)
hamburger	hamburger	orange
ketchup	keczup	+snack bar
sandwich	sandwicz	tea
toast	tost	coffee

DRINK

Alcoholic drinks

Class A		Class B
coctail	koktajl	beer
gin	dżyn	+drink
rum	rum	sherry
vodka[8]	wódka	whisky

(Class B also comprises brand names of drinks, eg. Black & White).

Soft drinks

Class A		Class B
tonic	tonik	+coca-cola
		+pepsi-cola
		soda

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[8] *Vodka* in English is a borrowing from Russian. The Polish word *wódka* is a native word, derved from the all-Slavic *voda* 'water'.

Other terms

Class A		Class B
bar	bar	dry

DRUGS AND COSMETICS

Class A		Class B
aerosol	aerozol	after-shave
antibiotic	antybiotyk	cream
cosmetic	kosmetyk	make-up
deodorant	dezodorant	powder
detergent	detergent	shampoo

MUSIC AND DANCING

Class A		Class B
concert	koncert	+big band
dancing	dansing	+blues
fox-trot	fokstrot	+charleston
gramophone	gramofon	cool (jazz)
long play	longplej	country (music)
opera	opera	hi-fi
saxophone	saksofon	+jazz
single	singiel	+jazz-band
song	song	jam-session
swing	swing	mono
twist	twist	music hall
		+musical
		+playback
		pop (music)
		+protest song
		stereo
		soul

(Class B also comprises names of currently popular pop groups).

PHOTOGRAPHY AND FILMING

Class A		Class B
camera	kamera	+dubbing
film	film	horror (film)
flash	flesz	porno

photo(s)	fotos	+zoom
slide	slajd	
western	western	

OTHER KINDS OF ENTERTAINMENT

Class A		Class B
club	klub	hobby
comic (strip)	komiks	party
magazine	magazyn	+quiz
picnic	piknik	+show
serial	serial	+strip-tease
zoo	zoo	+topless
		+week-end

CARD GAMES AND GAMBLING

Class A		Class B
bridge	brydż	+bluff
canasta	kanasta	
casino	kasyno	
joker	dżoker	
poker	poker	

SPORT AND GAMES

General terms

Class A		Class B
finish	finisz	fair (play)
leader	lider	
meeting	mityng	
sport	sport	
start	start	
record	rekord	
training	trening	

Names of games

Class A		Class B
badminton	badminton	+baseball
cricket	krykiet	polo

football	futbol
golf	golf
hockey	hokej
ping-pong	pingpong
rugby	rugby
tennis	tenis

Other sports (and sports equipment)

Class A

bobsleigh	bobslej
goggles	gogle
judo	dżudo
karate	karate
nelson	nelson
slalom	slalom
yacht(ing)	jacht(ing)

Technical terms

(In boxing:)

Class A		Class B
knock-out	nokaut	box
ring	ring	break
		+knock-down

(In football:)

Class A		Class B
corner	korner	+off-side
foul	faul	
goal	gol	
match	mecz	
out	aut	

(In tennis:)

Class A		Class B
double	debel	+backhand
game	gem	+forehand
net	net	
set	set	
single	singiel	

TRAVEL AND TOURISM

Means of transportation

Class A		Class B
charter (plane)	czarter(owy samolot)	+pick-up
express (train)	ekspres	+sleeping (-car)
helicopter	helikopter	
taxi	taxi	
trolleybus	trolejbus	

Ports, etc.

Class A		Class B
hangar	hangar	airport
port	port	air-terminal

Places to stay

Class A		Class B
hotel	hotel	+hostel
motel	motel	

Travel documents

Class A		Class B
passport	paszport	open (ticket)
visa	wiza	

Other terms

Class A		Class B
folder	folder	airline
plan	plan	+camping
transit	tranzyt	
transport	transport	

MOTORING

Class A		Class B
garage	garaż	automatic (gearbox)
parking	parking	+caravan
scooter	skuter	+jeep
service	serwis	oil

stop	stop	rally
tractor	traktor	

(Plus the names of the most popular makes of foreign motor-cars.)

GEOGRAPHICAL TERMS

Class A		Class B
bush	busz	America
canyon	kanion	American
continent	kontynent	city
ocean	ocean	English
shelf	szelf	Polish
		United States

(Plus a considerable number of place names and names of countries, continents, etc.)

BUSINESS, FINANCE, AND POLITICS

Class A		Class B
bank	bank	+best seller
cent	cent	+business
cheque	czek	+copyright
container	kontener	+establishment
dollar	dolar	fair
export	eksport	lobby
		+marketing
import	import	money
safe	sejf	peace
trend	trend	police
		+voucher

MACHINES AND INSTRUMENTS

Class A		Class B
boiler	bojler	+deck (=cassette deck)
calculator	kalkulator	+tuner
computer	komputer	TV
cassette	kaseta	+xerox
instrument	instrument	
laser	laser	
radar	radar	
radio	radio	
reactor	reaktor	

sputnik	sputnik
telephone	telefon
thermometre	termometr
transistor	tranzystor
turbine	turbina

SCIENTIFIC TERMS

Class A

algebra	algebra
atom	atom
electron	elektron
minus	minus
neutron	neutron
pesticide	pestycyd
plus	plus
proton	proton

MISCELLANEOUS

Class A

amulet	amulet
boomerang	bumerang
bungalow	bungalow
folklore	folklor
gang	gang
hall	hol
igloo	iglu
limit	limit
lynch	lincz
model	model
nonsense	nonsens
problem	problem
revolver	rewolwer
scandal	skandal
sex	seks
smog	smog
sniper	snajper
standard	standard
telegram	telegram
test	test
tornado	tornado
tribune	trybuna

Class B

airmail
cigarette
end (The End: in films)
kiss
science-fiction
+sex-appeal

trick	trik
wigwam	wigwam

8. List of Polish "Linguistic folklore" items of English origin.

GREETINGS AND POLITE PHRASES

Goodbye.
Hallo.
How are you?
How do you do?
Sorry.
Thank you.

AFFIRMATION AND NEGATION

All right.
No.
O. K.
Yes.

VARIOUS PHRASES AND SENTENCES

Do you speak English?
English spoken.
Fifty-fifty.
For you.
I love you.
Love story.
Ladies and gentelemen!
No smoking.
Printed in Poland.
To be or not to be.

9. Survey of form-classes.

Our tentative lists comprise 200 words and phrases in Class A and 120 in Class B, plus a handful of items on the list of "linguistic folklore" borrowings.

The great majority of items on the lists are nouns and noun phrases. They are mostly names of persons and things, but names of actions, abstract concepts, and relations are also represented. They all come from some twenty semantic fields, most of them relating to everyday life, work, and leisure; which makes the items particularly useful in teaching.

Adjectives are few in number (about twenty) and constitute a random collection. In Class A there are only a handful: *long* (in *long play*), *single*, *double*, *comic*, and *western*. The internymic equivalents of the last four function in Polish as nouns, but their adjectival meaning will be obvious to the learner. In Class B the list is much longer: *best* (in *best* seller), *big* (in *big band*), *cool* (a jazz term), *hot* (in *hot dog*), *dry* (wine), *fair* (in *fair play*), *instant* (coffee), *old* (in *old boy*), *open* (ticket or reservation). Some of these adjectives appear in their marginal, rather than central meanings: *cool jazz*, *dry wine*. In teaching they will require special treatment. Names of nationalities (and languages) also belong here: *American*, *English*, *Polish*. Finally there are one or two less useful items, such as *automatic* (gearbox) and *topless*.

Verbs are even more scarcely represented than adjectives, but almost all of them are very useful in teaching beginners. In Class A there are only three: *stop*, *start*, *finish*. The last two function as nouns in Polish, but their English verbal meanings are not likely to be a problem to the learner. Class B contains just two verbs: *box* and *break*. They appear only as technical terms in boxing and are thus of marginal usefulness. "Linguistic folklore" borrowings contain several verbs of high frequency of use: *be*, *love*, *speak*, *thank*, as well as several past participles: *made*, *printed*, *spoken*—all of them very useful in teaching the first steps of English.

Form classes other than nouns, adjectives, and verbs are only marginally represented in the material under discussion.

10. Latent bilingualism.

As we can see from the list of internyms, unassimilated loans, and "linguistic folklore" items of English origin, the number of English lexical units which the Polish learner can be expected to understand and therefore to master easily is quite considerable. Moreover, they come from a number of different semantic fields. We would seem justified, therefore, in coining the phrase *latent bilingualism* in relation to an average educated speaker of Polish who has never consciously studied English. The term 'bilingualism' is here used, of course, in its "weak" meaning, implying a partial and very incomplete familiarity with the foreign language, limited to certain elements of its lexicon and of its graphic and/or phonological system. To put it in a different way: certain elements of the code of the foreign language function as a subcode in the learner's native tongue.

It seems reasonable to assume that by making the learner aware of his latent bilingualism, however partial and incomplete, we can help him overcome the very considerable difficulties involved in learning the beginnings of the foreign language.

11. Applications.

The uses of interlingual synonyms, unassimilated loans, and "linguistic folklore" items in language teaching are several. As was mentioned at the beginning of this paper, they can serve as illustrative material for teaching English sounds and letter-to-sound combinations. Borrowings from English are particularly useful here: both assimilated and unassimilated loans. However, the most important advantage of using internyms and unassimilated loans in teaching stems from the fact that they enable the beginning student to communicate meaningfully almost right from the start of his language learning career. Words and phrases that the learner recognizes as familiar are easy to learn. As we could see, a large proportion of them can be useful in everyday communication; many others relate to various fields of interest that the learners may find interesting to discuss.

One has to remember, of course, that items under discussion here are recognized as familiar and so are easy to learn receptively. That does not automatically guarantee that the learner will be able to manipulate them effortlessly in speech production. This will require special exercises; but the familiarity of the items and their usefulness in communication will make the process of learning to use them actively much shorter in comparison with the process of mastering other vocabulary items. The learner is likely to progress at a fairly fast rate, and the feeling of success this will give him will strengthen his motivation and thus help him overcome other, more serious learning problems, unavoidable at the elementary stage of language study.

It is not claimed here that one can write a beginners' course of English based exclusively on interlingual synonyms and unassimilated loans. A considerable number of other vocabulary items will have to be introduced: mainly more verbs and adjectives, but also a necessary minimum of words from other form-classes, such as pronouns, prepositions, conjunctions, and adverbs. Even the stock of nouns and noun phrases will have to be enriched with items which do not figure on the list of internyms and unassimilated loans, but should be included in the early stage of the course because of their communicative usefulness, their teachability, or both. However, it would seem reasonable to expect that interlingual synonyms, unassimilated loans, and "linguistic folklore" borrowings could account for one third of the lexical material in the first year of a non-intensive course, or in the first semester of a semi-intensive course of English for adult beginners.

The principal advantage of the approach to teaching adult beginners advocated here is psychological in nature. As was stated in the Introduction, the learner's main problem is the wide gap between what he wants to say and what he can say in the new language. By speeding up the process of initial vocabulary acquisition the teacher can help the learner overcome his inhibitions and crash through the "communication barrier" quite early on in the process of acquiring the foreign language.

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TOWARDS A SEMANTIC SYNTAX OF ENGLISH: THE CASE OF THE MODALS *CAN* AND *MAY*[1]

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The present state of linguistic theory and model construction does not allow setting up an overall linguistic model, encompassing such diverse linguistic components as phonology, syntax, lexis, semantics, pragmatics, sociolinguistic variation etc. In spite of the fact that such a model does not seem to be realizable in the near future, it is felt, however, that most of those linguistic components are very intimately and delicately interwined.

The purpose of this paper is to show this strong interdependence of linguistic components in one specific area, i.e. that of syntax and semantics and to plead for an approach to syntax that has a built-in semantic level. If we think of syntax as that component of a total grammar of a language which contains the rules determining the structure of words, compounds, phrases, sentences and texts, then a semantic syntax can be defined as a syntax, which does not only state the formal rules determining a given structure, but also the semantic facts behind the formal rules. A semantic syntax thus adds a semantic starting-point or a semantic base to a purely formal syntax.

Formal rules are rules based on morphology, concord and similar syntactic constraints. Formally one could state that the English number system has the distinctions singular/plural and countable/uncountable. Semantically, one can draw a dividing line between countable singular nouns on the one hand and plural and uncountable nouns on the other. This is typically illustrated by such oppositions as in (1):

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[1] I wish to thank a number of persons for their help while I was working on this paper: first of all Prof. Dr. L. K. Engels (University of Leuven), who provided me with thousands of examples of *can*- and *may*-sentences taken from sixty modern British plays; also Dr. K. Sroka (University of Gdańsk), who drew my attention to Engelbretsen's paper; all the other participants of the 15th International Conference on Polish-English Contrastive Linguistics, held at Tleń, May 11—13, 1978, for their comments and suggestions on an earlier version of this paper; and last but not least Dr. Dennis de Loof (University of Trier) for his evaluation and interpretation of the examples.

7*

(1) a* It's all dollar.
b. It's all dollars.
c. It's all money.

The common semantic reality behind plural and uncountable nouns is that both denote the idea of multitude and this is absent in most singular countable nouns.[3] Especially in cross-linguistic comparisons the difference between purely formal categories and semantic categories stands out clearly. Thus a formal syntax can be said to specify the fixing of the lexical material in certain word-classes: (*be*) *ashamed* is an adjective in English, *sich schämen* is a verb in German, and (*avoir*) *honte* is a noun (or part of a nominal expression) in French. But the semantic category behind these three different syntactic classes is the same: not only do the three items roughly have the same meaning, they can also function as a predicate with the same number of complements. (To avoid confusion over this term, we prefer to use the new term 'predicator' for this semantic category).

If syntax starts from such a semantic base, then the field of investigation is automatically widened, of course. Thus in the analysis of the subsystem of the two modal items *can* and *may* within the total system of modality, a semantic syntax starts, as is to be shown below, from the basic notion of potentiality and is not limited to those two modal auxiliaries, but also includes synonymous adverbs, adjectives and nouns such as *possibly*, *possible*, *perhaps*, *maybe*, (*there is*) *the possibility that*, etc. In fact, purely formal criteria such as word-class are being replaced by semantic criteria such as synonymous lexical meaning and identical valence of the item as a predicator, i.e. the number and distribution of complements that are used with this predicator. Moreover, the goals of a semantic syntax are also more ambitious: it wants to go beyond the purely taxonomic work of registering rules and constraints, and to reach an explanatory level, that is it tries, wherever possible, to account for why the rules and especially the constraints hold.

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[3] As is well-known a certain class of singular countable nouns, viz. collectives such as *army*, *government*, *class*, *team*, etc. may either denote the group as such or the individuals in the group. Hence the concord is either singular (The ... *was* meeting) or plural (The ... *were* discussing the matter). Still, this semantic distinction does not yet put these items on a line with uncountable singulars nor with plurals, as appears from a test with *full of*, which has the same semantic value as *all*. Compare:

The room was full of *army. / The room was full of soldiers.
The room was full of *government. / The room was full of ministers.
The room was full of clergy. / The room was full of priests.
The room was full of nobility. / The room was full of dukes.

The term 'semantic' can after John Lyons (1977 : 50ff.) be taken in a very wide sense. In fact 'semantic' is the adjective corresponding to the noun 'meaning'. Since a distinction can and is to be made between meaning at the level of morphemes or words, at the level of sentences, and at the level of utterances (Lyons 1977 : 5), we can approach syntax from each of these three semantic levels, i.e. word semantics, sentence semantics and utterance semantics. The first is also known as lexical semantics; the second deals with the logical meaning of sentences abstracted and isolated from an interactional context[3] and could be called logical semantics; the third deals with the pragmatic meanings of utterances in social interaction and constitutes pragmatic semantics.

It is further possible, if not necessary, to take into account the sociocultural factors determining the specific social interaction and thus to reveal the social meaning conveyed by e.g. the choice of one particular variant amongst different possibilities. Thus in British English permission asked for by means of *Can I...* is more colloquial, whereas *May I...* is more formal. This is the level of sociolinguistic semantics.

The overall purpose of a semantic syntax is then to relate the possibilities of formal structure in the total system of language or in its various subsystems such as e.g. the system of potentiality, the progressive system, the emphatic sytem, etc. to the various semantic levels, and over and above that, to interrelate the various semantic levels so that linguistic meaning at one level e.g. lexical semantics can be adduced to account for phenomena of formal structure and meaning at the other levels.

The idea of a semantic syntax proposed here is to some extent a synthesis of recent developments in linguistics. The basic idea of a semantic syntax goes back to George Lakoff's dissertation (1970) in which the predominance of formal syntax, still underlying Chomsky's thinking in *Aspects of the Theory of Syntax* (1965) is replaced by a more abstract approach allowing for the fact that formal word-classes such as verbs and adjectives are subsumed under one semantic class (+VERB).[4] On the other hand our concept of a semantic syntax departs from Lakoff's or McCawley's concept of 'generative semantics', which is also called 'semantic syntax' (Seuren 1972, 1974) as opposed to Chomsky's 'autonomous syntax'. We do not attempt to start from universal, abstract semantic concepts, but rather from language-specific lexical morphemes such as *can* and *may* or grammatical morphemes such as the English progressive form or emphatic *do*. Although *can* and *may* reflect universal notions, in this case the notion of potentiality, they express highly language-specific concepts in the field of potentiality, and are at the basis of a number of logical and pragmatic semantic facts in English, which are not found in other languages. Similarly, the English progressive form is not just to be equated with a universally valid, abstract notion of 'temporary progress', but rather denotes a very language-specific abstract notion of temporary progress, which does not make a distinction between comprehensive activities as in (2a) and more restricted activities as in (2b):

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[3] The expression "the meaning of a sentence without a context" is, as John R. Searle (1978) shows, not quite correct, since any sentence of a language can only be understood against an enormous set of background assumptions. What this expression means is, in fact, "the meaning of a sentence without an interactional context". In this sense the logical meaning can be said to be synonymous with its literal meaning. The literal meaning of a sentence with *can* or *may* is then that of giving (or asking for) permission and that of stating (or asking about) possibilities or abilities.

[4] It was soon realized that also nouns belong to this semantic category of (+VERB) (see Dirven 1971, III, part 1, and Schachter 1973).
Of course, Lakoff's term (+VERB) has the same meaning as our term 'predicator', but it is a typical projection of surface or syntactic categories into a semantic level.

(2) a. They are building a house.
b. They are talking.

The semantic difference is especially felt when comparing both sentences with their Dutch equivalents using a kind of progressive form with *staan te*: Only (2b) could be rendered with *staan te*, but not (2a) (see Dirven 1976).

(3)a* Zij staan een huis te bouwen.
(lit.: They stand to build a house.)
b. Zij staan te praten.
(lit.: They stand to talk.)

This constraint on *staan te* in Dutch is relatable to the lexical meaning of *staan*, which presupposes a spatial and temporal continuity.

From the point of view of contrastive analysis a semantic syntax may become of great relevance if and when it is able to point out not only the formal differences and similarities between the various subsystems in the structure of two languages but also the semantic differences and similaritiee associated with them. Indeed, if it can be shown in a number of cases that the formal differences are not merely accidental but reflect — and may be the result of — different ways of abstracting human experience, different ways of systematizing the continua of knowledge and volition, then these formal differences may become for the learner of a foreign language an instrument of expressing slightly or strongly different notions from those he is used to express in his own native language.[5] It is thanks to such a very broadly orientated semantic syntax[6] that descriptive linguistics can be expected to contribute to the development of applied linguistics and of didactic grammar. This type of semantic syntax will in this paper be illustrated in the exploration of one specific area, viz. that of potentiality as differently expressed by *can* and *may*. First the lexical meanings of *can* and *may* will be specified, and next some syntactic constraints on sentences with *can* and *may* will be approached from a semantic angle. The level of pragmatic semantics will not be discussed in this paper, but in a separate paper, entitled "Pragmatic forces associated with *can* and *may*-sentences" (Dirven 1980).

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[5] A more elaborate version of this concept of contrastive linguistics is presented in Dirven (1976).

2. Lexical meanings of the modal morphemes *can* and *may*

The items *can* and *may* are, like most modal auxiliaries, ambiguous items. As is well-known they either have a volitional sense, viz. they denote permission or they have an epistemic sense, i.e. they denote an area in the domain of knowledge, viz. the area of possibility. Thus in minimal contexts like *John can do it* or *John may do it* the permission sense (John is allowed to do it) and the possibility sense (It is possible that John will do it) are possible readings. In addition the item *can* may denote ability (John is able to do it). Such facts have led several transformational grammarians[7] to accept three different items *can* and two items *may*: *can*^{1} and *may*^{1} were analyzed as transitive verbs in much the same way as *allow* is said to be transitive; *can*^{2} and *may*^{2} were analyzed as intransitive verbs, just like the adjective *possible*. In fact, *can*^{1} and *may*^{1} were, as volitional verbs, not looked upon as belonging to the field of modality. The item *can*^{3} in the ability sense was not even adopted as a candidate for the class of modal auxiliaries.

This approach in terms of differences in underlying structural descriptions was dictated by the axiom of postulating one specific deep structure for each specific semantic interpretation. Although we do not want to query the validity of this transformational approach, it must be pointed out that a major linguistic fact was lost sight of in the process. This is the fact that the semantic similarity between the three readings of *can*, or for the same matter between the two readings of *may*, is somehow stronger than the similarities between the permission senses of *can* and *may* or between the possibility senses of *can* and *may*. This major syntactic generalization had, however, already been made by structuralist semanticists such as F. Twaddell (1960), Martin Joos (1968) and Madeline Ehrmann (1966). Their refined semantic analyses show that the core meaning of each item is the same in the volitional and the epistemic senses.

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[6] The idea of a semantic syntax is not new, but can be found in the linguistic thinking and description of various linguists, e.g. O. Jespersen (1927), E. Leisi (1967^{3}, 1973), W. L. Chafe (1970), D. Bolinger (1977), G. N. Leech (1969, 1971), R. Dirven/G. Radden (1977), E. König (1977) and various other authors.

[7] The tendency to postulate two different underlying lexical items for one surface form was first started by Permultter (1970, 1971) in his analysis of the verb *begin*. In the same fashion Kraak (1968) and Van Belle (1974) postulated two underlying items, i.e. one for *can/may* (permission) and one for *can/may* (possibility), thereby ignoring major differences between *can* and *may* in each case, and not accounting for the similarities between the permission and possibility sense of *can* on the one hand, and for those of *may* on the other.

In this typically structuralist approach, which operated on the basis of a binary principle, Martin Joos (1968 : 149ff.) accepts two groups of modal items, those expressing assurance and those expressing potentiality. Joos' own definitions are somewhat vague, therefore we paraphrase them here. Assurance means that the speaker can be rebuked or held responsible in case the event or action does not occur. Potentiality means that the speaker remains immune, because he has not so strongly committed himself. The modal items denoting assurance are *must, ought to, will, shall*, and those expressing potentiality are *need, dare, can, may*. Potentiality is further binarily split into stable potentiality, expressed by *dare, need*, and casual potentiality, expressed by *can, may*. Casual potentiality means that those two "modals take the relation to the world from the minimal social matrix of events, determining factors being the result of chance" (1968 : 149). Paraphrasing Joos, one can say that *dare* and *need* are stable modals because they denote events or actions accepted and omnipresent in a given sociocultural framework; *can* and *may* on the other hand are casual modals since the sociocultural framework has no norms imposing such events or actions: they result from chance. *Can* is looked upon as expressing adequate potentiality, since it depends on a complete set of determining factors in the sociocultural context; *may* is a contingent modal since the determining factors are not completely known.

Madeline Ehrmann (1966 : 74) gives a similar, though simpler paraphrase for *can* and *may*, i.e. "nothing in the state of the world prevents the predication". For the further binary splitting between *can* and *may* the characterization by F. Twaddell (1960) sounds simplest: for *can* he uses the paraphrase 'inherent' ,for *may* the paraphrase 'contingent', just like Joos. Summarizing these structuralist approaches, one could say that *can* denotes inherent casual potentiality and *may* contingent casual potentiality. The term potentiality is supposed to subsume the two senses of permission and of possibility, (and as is to be shown below even that of ability in the case of *can*).

The sense of inherent potentiality is found in the following context:

(4) As long as the door is bolted and I can have a light burning I'm not bothered. It's just I'm not keen on strangers.

What the speaker is describing here are the circumstantial conditions under which he won't be bothered. One circumstantial condition is the bolting of the door, the other is the potentiality (provided by the circumstances) to have a light burning. In fact, the inherent aspect of this condition is so strong, that it is no longer essential whether the speaker means permission, ability or possibility. Obviously, the use of *may* would have a different effect in (4), since then the sentence could only have a permission sense, the possibility sense being totally ruled out. The permission sense with *may* would, however, presuppose that someone was to give this permission. This sense of contingent permission which is dependent on the addressee's consent is clearly found in (5):

(5) If I may say so, sir, girls do take teddy-bears with them to bed.

Here the speaker asks for the addressee's permission to express his disagreement or contradiction. By using this permission formula, he assumes this permission to have been given. In some other contexts, however, the possibility sense is more likely. This is especially the case when either the perfective or the progressive aspect is combined with potentiality. In such cases it is interesting to realize the difference between inherent and contingent possibility.

Inherent possibility is often marked by contexts that allow one to derive this possibility from other facts, or to exclude it on the basis of such facts:

(6) With respect, ma'am, I hardly believe you can have known my father. You also look far too young.

What is suggested here by the speaker, is that from the addressee's age it can be derived that she did not know his father. In this context *may* is once again impossible. A context in which contingent possibility is required, is the following:

(7) For all I know he may be planning to buy this place with the money and build a suburb.

The difference between (6) and (7) stands out clearly: in (6) the speaker claims to possess enough knowledge to derive certain conclusions from it; in (7) he points out the restricted scope of his knowledge, and communicates a piece of knowledge which is dependent on his personal information. The use of *can* in (7) is extremely unlikely, since it denotes a possibility which is known to anybody and thus would be in conflict with the restrictive phrase 'for all I know'.

The difference between inherent and contingent possibility may also offer an explanation for a remarkable observation by Leech (1971 : 76). According to Leech the two sentences

(8) The pound can be devalued.
(9) The pound may be devalued.

differ in that the former states a theoretical possibility, whereas the latter hints at a factual possibility now. Since the possibility with *can* is inherent, it is theoretically always present and can be deduced from the circumstances by all persons who share this circumstantial information; but possibility with *may* depends on the information of one person i.e. the speaker himself, and is consequently more real or urgent, at least in so far as the speaker does not merely make a guess. The notion of inherent potentiality expressed by *can* is also able to account for the very close affinity between the ability sense and the possibility sense in a number of sentences.

Although there are very clear instances in abundance of either an ability-only sense (10), or a possibility-only sense (11), there are also numerous instances where both seem to be involved simultaneously (12). Compare:

(10) He can hardly more, but does.
We can see the flames, of course.
Yes, I can see that might be fun.

Here either the ability to do something, or the ability for physical and mental perception is expressed.

(11) Can this be happening to me? Is it real? Am I dreaming?

Here the possibility sense is clearly involved, which is especially signalled by the use of one of the aspects, viz. the progressive aspect.

But in the following cases both meanings are not only possible, but even seem to be called for simultaneously:

(12) We can fall in love like anybody else.
Electrical blow-cuts can damage the gas supply. They're famous for it. They do it all the time.

It is because one has, by nature, the capacity of falling in love that the speaker can hold out the possibility of it happening to himself and the addressee too. Likewise, it is because electrical blow-cuts have the capacity of causing damage as shown by past experience, that they can be expected to do this in future, too.

Summarizing, we can say that, although *can* and *may* are partly synonymous since they both denote possibility and permission, they are also largely non-synonymous, since the two shades of possibility and permission are fundamentally different, even to such an extent that the possibility sense of *can* is more strongly related to the ability sense of *can* than to the possibility sense of *may*. These differences are mirrored in the concepts of inherent potentiality and contingent potentiality, suggested by structuralist semanticists.

Starting from this double set of lexical differences i.e. that between possibility and permission on the one hand, and that between inherent and contingent potentiality on the other, a number of syntactic constraints may become better understood.

3. Syntactic constraints on *can* and *may*

The syntactic constraints found with certain senses of the modal auxiliaries *can* and *may* are fairly well known and have been brought in light by several transformational and other grammarians. It is the claim of a semantic syntax that these constraints are not all purely formal or syntactic in nature, but that they are relatable to and partly explainable by semantic facts. This means that there is a logical incompatibility between the lexical senses of *can* and *may* and the sense of other grammatical morphemes or systems with which they are combined.

Some of the most important constraints on the various senses of *can* and *may* are the following four:

(i) the different possibilities for external and internal negation,
(ii) the difference found with *yes/no* interrogatives,
(iii) the different possibilities for reference to future time, and
(iv) the different possibilities for the progressive and perfective aspects.

(i) By external negation is meant the negation of the modal item, by internal negation that of the other predicators used with it. Several grammarians have observed that *can* favours external negation, whereas *may* can only have internal negation, so that the two sentences *It can rain today* and *It may rain today* have fundamentally different meanings when negated as shown in (13):

(13) a. It cannot rain today (=It is impossible that it will rain today).
b. It may not rain today (=It is possible that it will not rain today).

Though this observation is not incorrect,[8] the situation is, in fact, even more complex. In fact, only external negation or negation of the main predicator is real negation, in the sense that a contradiction holds between the affirmative and the negative sentence. In a contradiction one of the two contradictories must be true, the other must be false. Internal negation on the other hand is rather an affirmative than a negative statement. This appears from the fact that also here the main predicator can be negated. Thus we have four possibilities for the permission sense of *can* and *may*: the affirmative (14a), the affirmative with internal negation (14b), the negative (external negation of the main predicator (14c)), and the negative combined with internal negation (14d).

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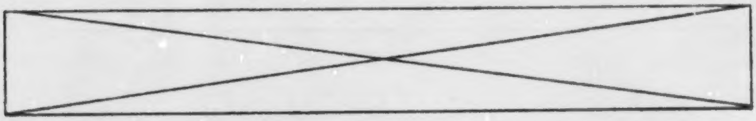
[8] This statement is presented in an earlier approach of mine (Dirven 1974).

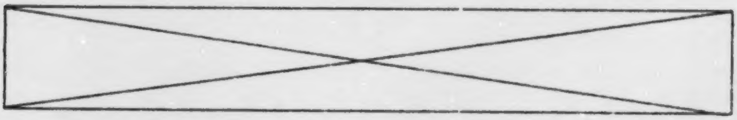
The relation between those four cases can be represented in the following 'square of opposition', designed by Engelbretsen (1976: 531):

(14)

a. You $\left\{\begin{matrix}\text{can}\\ \text{may}\end{matrix}\right\}$ pay. b. You $\left\{\begin{matrix}\text{can}\\ \text{may}\end{matrix}\right\}$ also not pay.



d. You $\left\{\begin{matrix}\text{can't}\\ \text{may not}\end{matrix}\right\}$ any longer not pay. c. You $\left\{\begin{matrix}\text{can't}\\ \text{may not}\end{matrix}\right\}$ pay.



Real negation is found in (c), which is the contradiction of (a), and in (d), which negates (b): one of each pair must be true, the other must be false. For the possibility sense the constraint on *may* can now be clearly delimited:

(15)

a. It $\left\{\begin{matrix}\text{can}\\ \text{may}\end{matrix}\right\}$ rain. b. It $\left\{\begin{matrix}\text{can}\\ \text{may}\end{matrix}\right\}$ also not rain.

d. It can't any longer not rain. c. It can't rain.

It is clear now that *may* in the possibility sense can be used in the affirmative only, not in the negative. We are thus left with the following problem: The contradiction of something that is inherently possible (15a with *can*) is something that is inherently impossible (15c). Likewise we would expect that the contradiction of something that is contingently possible would be something that is contingently impossible. But this cannot be correct on closer inspection. Impossibility is a notion that includes necessity; in other words, impossibility is only applicable to things or states that are inherently so. Thus it is common knowledge that *cannot* is not only the negation of *can*, but also of *must*. Or the sentence

(16) a. That man cannot be your father.

is the negation of both (16b) and (16c)

(16) b. That man can be your father.
c. That man must be your father.

In fact, it is also the negation of a third proposition, viz.

(16) d. That man may be your father.

Thus impossibility is the opposite of necessity, of inherent possibility and of contingent possibility.
(ii) A second constraint on the possibility sense of *may* is that it cannot be used in *yes/no* interrogatives. Compare:

(17) a. Can this be happening to me?
b.* May this be happening to me?

By means of the question with *can* in (17a) the speaker wonders whether there is something in the nature of things that makes it possible for something to happen to him. By using *may* instead of *can* the speaker would no longer try to find any relevant answer, since contingent possibility is never totally ruled out and the question would be a redundant one.

In terms of J. Searle's analysis of types of illocutionary acts (Searle 1969: 66) a *yes/no* question with *may* would violate a preparatory condition on questions, i.e. that the speaker "does not know the information needed to complete the proposition truly". In sentences with *may* the information contained is that of contingent possibility, which of course is always given, except in the case of necessity or impossibility. It must also be pointed out that the constraint on *may* in *yes/no* questions is not an isolated one, but belongs to a wider semantic constraint. The same restriction is found in questions with *will* asking about someone's assumptions e.g. about the identity of the person who makes some noise at the front door:

(18) Listen. *Will that be the postman?

Just like *may* the modal *will* is ruled out in direct questions because of pragmatic reasons: a question is asked to get information, but *will* presupposes that the addressee makes an assumption about the probability of something only, not that he can give the information required by the speaker.

However, this constraint holds only for *yes/no* questions, not for *wh*-questions, in which the information required by the speaker is the identification of an unknown variable:

(19) a. Who may that be?
b. Who will that be?

In (19a) the speaker wants the hearer to express his opinion about the possible identity of the person causing a noise; (19b) is a question about the probable identity of this person. In both cases the speaker seeks information the hearer may have. It is remarkable that *must* shows the opposite possibilities of *may* and *will*; *epistemic must* is perfectly possible in *yes/no* questions, but not in *wh*-questions:

(20) a. Must that be the postman? Can't it be anyone else?
b.* Who must that be?

In (20a) the question is about the necessity of some identification and the speaker doubts this; in (20b) however he wants the addressee to give the necessary identity of someone they both hear, which is demanding too much of him since neither of them is supposed to know for sure.

It thus turns out that the constraint on *may* in *yes/no* questions is part of a wider system of complementary distributions in the field of modality, i.e. of possiiblity, probability and necessity.

(iii) A third constraint, this time on *can*, is that only *may* but not *can* is possible in a context of future time. Boyd and Thorne (1969: 71f.) adduce the following example to substantiate this observation:

(21) a. The party to be held next week may be boring
b.* The party to be held next week can be boring.

Boyd and Thorne (1969: 71) even conclude from this that *can* is not a modal verb in sentences with sporadic *can* (see below (22)), since "*can* is a modal verb, ... only when it is an alternative form for *may*". However, this conclusion is obviously too strong, since then the second constraint, whereby *may* is ruled out in *yes/no* questions, would oblige us to say that *can* is not a modal verb in possibility questions like (17a). Instead of claiming the status of a modal verb for *can*, Boyd and Thorne (1969: 71) propose the theory that *can* expresses a sporadic aspect, i.e. something that happens sometimes. They claim that "only sentences that can be paraphrased in this way [i.e. with *sometimes*] are able to take *can*". One of their examples and paraphrases is the following:

(22) a. Coctail parties can be boring.
b. Sometimes coctail parties are boring.

However, this analysis does not offer a complete picture. First of all the adverb *sometimes* can be used in the *can* sentence itself, which shows that the theory of sporadic aspect does not cover the whole of the meaning of *can*.

(23) A harsh dose of reality can sometimes help towards a cure.

Secondly, the paraphrase with *sometimes* is not always obvious in all contexts:

(24) A specialist in emotional black-mail, he can become hysterical when slighted or — as inevitably happens — rejected.

One reading that seems to be possible with the second part of this sentence would be: He always becomes hysterial when rejected. Moreover, it should be noted that the adverb *always* can co-occur with *can*:

(25) An artist can always excuse his curiosity on the grounds of a search for material.

Thirdly, sentences with *can* are unequivocally relatable to the present moment of speaking, but similar sentences with *sometimes* are not:

(26) a. He can become hysterical any moment now.
b.* He sometimes becomes hysterical any moment now.

It is clear therefore that sentences with *can* express more than their paraphrases with *sometimes*. The difference is that sentences with *sometimes* only refer to previous experience (it has happened before and it may happen again), whereas sentences with *can* express a generalization about such experience in the form of a logical deduction: because something belongs to the nature of things, it is inherently possible for it to happen again. It is precisely because such generalization is impossible in connection with a future event, e.g. *the party to be held next week* in (21b) that *can* is ruled out there. Thus it is not so much the future context that is at stake in the third constraint but rather the element of generalization that is less compatible with a unique event in the future. If this event is one element in a series of events as in (24, 25, 26a) the notion of future time is not exluded.

(iv) A fourth constraint is, as already stated before, one on the permission sense of *can* and *may*: in this sense *can* and *may* cannot be combined with the progressive or perfective aspects. Only the possibility sense of *can* and *may* allows of these two aspects. Compare the possibility readings in (27) with the permission reading in (28):

(27) a. I am wondering what on earth this filthy, scruffy, old tunic can possibly be doing in the mess?
b. I hardly believe you can have known my father.
(28) a. Can I go down town?
b. ... if I may say so.
(29) a.* Can I be going down town?
b.* ... if I may have said so.

Again the difference between the use of the two aspects with the possibility sense of *can* and *may* and their incompatability with the permission sense can be related to semantic facts. Possibility judgements are time-indifferent and may be related to the past, the present, and even — as shown before — within certain constraints to the future. The giving of permissions, on the other hand, is time-specific in that it is normally orientated towards the future. Moreover, this constraint is not typically found with the permission sense of *can* and *may* only, but also occurs with other constructions expressing volition such as the imperative or volitional verbs like *want*. This verb can only marginally take the progressive in the complement sentence, and the perfective is fully ruled out:

(30) a. ?I want you to be going down town.
b. *I want you to have said so.

In some contexts, however, especially when future activity in progress or a future achievement of some activity is denoted, the aspects seem acceptable with *want*:

(31) a. I want you to be doing the washing up when I come back.
b. I want you to have finished the washing up when I come back.

But with *may* or *can* in the permission sense, just like also with imperative constructions, the aspects are ruled out. This contrast between *can*/*may*/imperative on the one hand and *want* on the other hand may be related to the fact that the former are combinable with non-stative predicators only, whereas *want* can take both stative and non-stative predicators. The aspects in (31) can be said to denote states: (31a) is an activity seen as a future state, and (31b) is an activity seen as achieved: in fact it is a state of achieved activity. It is the notion of state that is not combinable with permissions and imperatives.

In one specific case, the progressive is even possible with *can*. As Leech (1971: 71) observes, a theatrical producer could say to his cast by way of a 'democratic imperative':

(32) Willy, you can be standing over there; and Janet can enter the room from behind the curtain.

For Leech the fact that "*can* occurs with the Progressive Aspect ... is a sign that it belongs to the 'possibility' rather than to the 'permission sense'" (1971: 71). Methodologically, a crucial problem arises here. What Leech is doing, is begging the question to some extent. Of course, we do not want to query Leech's observation, but what we want to emphasize is that we need semantic arguments for the statement that the possibility sense is involved here. One possible argument would be the combinability with the adverbs 'possibly' or 'perhaps'.

(33) Willy, possibly you can be standing over there; and perhaps Janet can enter the room from behind the curtain.

Anyway, in a semantic syntax, a given constraint cannot be allowed to be a proof of a semantic fact. On the contrary, socalled syntactic constraints should as often and as far as possible be explained by using semantic facts.[9]

Still, the observation made by Leech is extremely challenging. Here we have an instance of a 'democratic imperative' which is used with a progressive aspect. This is a clear hint that the semantic base of syntax cannot be limited to logical meaning, but that it is to include pragmatic points of view, as well. But as already stated we shall leave the analysis of the pragmatic forces associated with *can* and *may* for some other occasion.

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[9] Of course, a large number of constraints are purely syntactic. Thus the fact that two modal auxiliaries cannot co-occur in English is a syntactic constraint only. Compare **he must can play* with the German *er muß spielen können.* The English modal auxiliary lacks the infinitive form, which the German modal auxiliaries, here *können,* have. On the other hand, the fact that the modal auxiliaries have no imperative form in the various languages that I know seems to be a semantic constraint.

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CLOSER TO A THEORY OF TENSE FOR CONTRASTIVE ANALYSIS

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1.0. Introduction

Although most of this paper is devoted to criticism of Norbert Hornstein's (1977) recent paper, "Towards a Theory of Tense", my aim is to support and strengthen that theory, since I believe it can provide a valuable tool for the analysis of time and tense relations on a cross-linguistic basis within an autonomous syntax framework.* Hornstein provides a language-independent framework (the SRE framework), which means that tense phenomena in one language do not have to be defined in terms of another or in terms of *ad hoc* constructs; furthermore, its predictive power enables it to characterise the exceptional features of some systems of time relations, independently of considerations from other languages (cf. discussion of finite *have* in 2.2. and of *since* in 3.0. These considerations make it ideal as an independent tertium comparationis for contrastive time-tense descriptions.

"Towards a Theory of Tense" is an attempt to delineate a constrained theory of tense from which the facts concerning the interaction of tense forms and adverbials will follow. In addition to accounting for possible combinations within simplex clauses, H. is able to predict the grammaticality of possible tense sequences in clauses linked by temporal connectives (i.e. the relations holding between the tense of adverbial clauses of time and their superordinate clause), to state the possible sequential relationship of events in main clause and *when*-clause, and to state whether a *before*-clause has a time-sequential, a counterfactual or an ambiguous reading. His paper falls into two distinct parts: the first treating of relations holding between tenses and adverbials in simplex clauses, and the second concerning clauses linked by temporal connectives.

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* Carlota Smith's "The syntax and interpretation of temporal expressions in English" appeared in *Linguistics and Philosophy* after this paper was completed. She works within a similar framework but makes no reference to Hornstein. While there are inevitably differences, Smith's analysis supports the proposals made here.

H. argues that his theory is of relevance to language acquisition in that it provides a framework for the development of "semantic competence of tense and time". Section Two of my paper will be devoted to showing how extensive revision of the proposals made in the first part of H.'s paper will lead to a very considerable strengthening of this claim; Section Two will also show that the revisions I propose are necessary to deal with a large number of sentences without having to resort to H.'s *ad hoc* interpretative rules and without having to rely on his untenable dichotomy between the epistemic modal *will* (together with all other epistemic modals) and his unmotivated future *will*. Section Three surveys briefly the claims made by H. in the second part of his paper concerning relations between clauses linked by a temporal connective, showing that my revisions do not detract in any way from the substantial claims made for the theory as a whole. Section Three will also indicate the place that such a theory of tense could have within the field of contrastive analysis. Finally, an appendix summarises my proposals for revision. The major burden of this paper is undoubtedly Section Two, where I propose a revision of H.'s representation of basic and derived tense structures. H.'s research on temporal connectives, although obviously preliminary, holds promise of interesting results, and thus it is essential that it be based on a correct theory. In its present state his theory is inadequate, occasionally on observational grounds, always on descriptive grounds wherever modals or modal pasts are involved, and, in view of its unnecessary complexity, on psycholinguistic or explanatory grounds.

In order for readers to appreciate the significance of the revisions proposed, the remainder of Section One will be devoted to a short summary of the section Tense and Adverb from H.'s paper. Those familiar with this should pass directly to Section Two.

1.1. Hornstein's theory of tense:

H. represents tense structures "in terms of three theoretical entities. S,E, and R, which are the moment of speech, the moment of the event, and a reference point, respectively... [R] is simply a theoretical entity that will help us explicate concepts like 'more past than normal past' and 'past in the future,' i.e. the past perfect and future perfect tenses. The idea of representing tenses in this way is Reichenbach's" (1977 : 522). It should be evident from these remarks that H. uses the term 'tense' in the language teacher's sense rather than the more restricted linguistic sense. He distinguishes progressive tense in his notation by a superscript arrow over the E; however, the system can be understood without paying attention to the progressive, so it will be ignored in this outline.

He also distinguishes a future tense, whose marker is *will*. Where *will* is clearly not referring to a future event, it is re-analysed as modal *will*.

The three theoretical entities are sequentially placed along a horizontal axis, representing the progress from past to future (left to right). When entities are separated by a line, the one on the left is prior in time; when entities are separated by a comma, they are seen as contemporaneous, however, their order relative to each other is still of theoretical significance. Each tense has a basic tense structure associated with it as follows:

Simple past: E, R_____S
Past perfect: E_____R_____S
Simple present: S, R, E
Present perfect: E_____S, R
Simple future: S_____R, E
Future perfect: S_____E_____R

These configurations, known as basic tense structures, are assigned to clauses on the basis of the tense form of the verbs; in order for a clause to receive a time interpretation, time adverbials in the clause must be associated either with E or with R. A time interpretation is possible if the time adverbials and the S are in a sequential relation of anteriority and posteriority on the time axis, with a line separating earlier and later points. In his discussion, H. uses the adverbials *yesterday*, *now*, and *tomorrow*; he is concerned with what we will call punctual time adverbials rather than boundary time adverbials, and is not concerned with adverbials referring to times embedded within a larger adverbial reference point (e.g. not with *at one o'clock today* as two adverbials). If it is not possible to read off a time interpretation once adverbials have been mapped onto E and R, certain movements of SRE are possible to produce a derived tense structure which will be consonant with a time interpretation if (i) such movements do not destroy the original linear order of SRE and (ii) such movements do not result in the association or coming together of any of the theoretical entities (SRE) which were previously separated by a line. In practice, these constraints mean that where two entities are already associated, the one at the extremity may move away and become separated by a line. As a simple illustration of how this works, consider the basic structure of (1), with the adverbial mapped onto E (Hornstein offers no criteria as to whether it should be mapped onto E or R in such a case):

1: John is coming tomorrow.
S, R, E
tomorrow

Such a basic structure cannot receive a time interpretation since *tomorrow* denotes a point in time ahead of the present, but is here represented as cotemporaneous with S, the moment of speech. The constraints allow E to move out of its present association, resulting in the derived structure (2), which shows that the combination of tense and time adverbial is consonant with a time interpretation:

2: S, R____E
tomorrow

In contrast, (3) is rejected as a sentence having a time interpretation, since there is no way, given the constraints, in which E or R can move to the right of S:

3: *John came tomorrow
E, R_______S
tomorrow

H. finds it necessary to posit a special interpretative rule for the fact that (4) is acceptable, a matter which will be taken up in Section Two:

4: John was coming tomorrow.

Ambiguities in the past perfect are accounted for by the fact that the time adverbial may be attached to E or to R. When attached to R, the interpretation is that the eating took place before three, but when attached to E, the interpretation is that it took place at three in (5):

5: The secretary had eaten at three.
E_______R_______S
at three
E_______R_______S
at three

No such ambiguity is possible with (6), because no matter whether we attach the adverbial to E or to R, there is no reason for a movement rule to apply and the event must have taken place at three:

6: The secretary ate at three.
E, R_______S
at three

The system handles clauses with two adverbials, as (7), where one of the adverbials may be fronted. The adverbial which is or could be fronted is always mapped onto R:

7: Yesterday, John had left a week ago.
E_________R_________S
a week ago yesterday

Note that the time axis is maintained here, whereas it could never be maintained in the ungrammatical (8):

8: *A week ago John had left yesterday.

Sentences with *will* as a future marker and all sentences without a modal receive a pure time interpretation or are rejected (although the past progressive also has an alternative interpretation); however, the system does not work with modal verbs in general, and H. presents a further set of basic structures to deal with these; such sentences do not receive a pure time interpretation in his system, and will be incorporated into the total system in my proposed revisions.

The system, as presented by H., provides a method for specifying whether time adverbials fit their accompanying tenses; the fact that it is able to account for ambiguities in the past perfect, to cope with instances of two time adverbials in one clause, and indeed to predict whether any combination of tenses and adverbials is acceptable makes it an impressive step towards an explicit account of time-tense relations. As H. say, the fact that it can account for tense relations between clauses linked by temporal connectives and can disambiguate factual and counterfactual instances of *before* constitutes further plus points. This brief account of how the system works has avoided, as far as possible, all critical remarks. It does not replace H.'s own account, but provides a framework for the following Section in which substantial revisions are proposed.

2.0. Revisions to the theory:

2.1. Acquisitional Considerations:

Hornstein's system provides a semantic representation of time relations within a framework related to the Extended Standard Theory in that the semantic reading is clearly derived from the surface structure representation, e.g. past perfect forms are all given identical configurations of S, R and E irrespecfive of whether they are derived from a combinatioon of two pasts in remote structure or a past and a perfect; furthermore the surface structure position of adverbials is shown to play a crucial role in the determination of the temporal reading, resolving possible ambiguities. My critique of H.'s proposals will assume without further discussion an identical framework. Of more immediate concern is the fact that H. claims that his theory of tense interpretation is of explanatory or psycholinguistic relevance (1977: 522):

> The small number of initial configurations, in conjunction with these conditions on derived tense structures, provides the child with a rather tight system with which to work in deciphering the tense phenomena and their corresponding temporal interpretations. It is precisely this "tightness" that offers to provide an explanation of how the semantic competence of tense and time arises.

This is a significant claim and will provide a starting point for our critique of H.'s theory. His account may be seen as explanatory in that it makes use of a linear time axis, the left side denoting anteriority to the speech event, the right side posteriority; sentences with a strict time interpretation will preserve, within strict and motivated constraints, the original configuration of points E, R and S, as determined by the basic tense structure. The preservation of the form of the linear axis, or, alternatively, its destruction provide a motivated reason for accepting or rejecting time interpretations with adverbials. In order for the system to be convincingly relevant to language learning, it would seem desirable to have the most basic set of primitives possible, and for their basic ordering to be related to the verbal form of the tense structures in the most natural way possible. In taking over the three basic elements from Reichenbach, H. has taken the minimum number of elements possible to account for the fact that two punctual adverbials can in fact occur within one simple sentence, cf. (7), repeated here:

7: Yesterday, John had left a week ago.

However, H.'s proposals for basic structures are not convincing in terms of learnability considerations since his system requires learners to select and learn four out of the six possible ordering relations of the abstract elements SRE; our proposed revision only requires them to select two ordering relations, and it is arguable that the learner in our system would first of all select these two ordering relations while aware of only two elements, E and S, and thus there would be only two possible positions, so the learner would only actually have to deduce that there were two elements in a sequential relation to each other. R would be inferred at a later stage of learning as an element that is always on the left of S. Thus it will be claimed that my proposals (henceforth P.'s proposals) relate to a system that could be acquired by a language learner, while it is completely unclear how a learner would come to associate a large number of relatively complex patterns, as proposed by H., with the tense forms. The table below shows H.'s four ordering relations and P.'s two. In addition to the ordering relation there is also the spatial relation. H's groups 1 and 2 both have alternative spatial patterns, as does P.'s group 2. We do not consider progressives because their patterns are identical to their non-progressive equivalents; P.'s system does not include the so-called future tense, since within the P system all clauses with modals receive identical tense structure to their equivalents without modals. It should also be noted that H.'s hypothetical learner will have to learn still more patterns for sentences with modal verbs.[1]

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[1] *will have arrived* in *John will have arrived home yesterday* receives the structure: (m) E, R____S, which is unrelated to other instances of *will* and to other instances of *have*, and thus cannot be deduced on the basis of previous learning.

H.'s four ordering relations		P.'s two ordering relations	
Simple present:	S, R, E	Simple present:	R, S, E
Simple future:	S___R, E		
Simple past:	E, R___S	Simple past:	E, R___S
Past perfect:	E___R___S	Past perfect:	E___R___S
		Present perfect:	E___R, S
Present perfect:	E___S, R		
Future Perfect:	S___E___R		

For the time being, the reader must accept the fact that P.'s system is capable of accounting for all the data that H.'s accounts for. It will subsequently be shown that if accounts for more, and does so in a more satisfactory manner. For the present we will assume that they are both equally satisfactory on a descriptive level and consider the desirability of these two sets of basic tense structures from the point of view of the role that they might play in the acquisition of tense competence.

Some idea of the learnability of a system may be perceived from the number of basic steps required to learn it. We shall look upon the acquisition of basic tense structures as a two stage process (logically rather than temporally), where the first stage involves ordering and the second stage association or separation. Here is how the two systems might work:

Pankhurst Stage One: $\{ed_1\}$ morpheme or aux *have*: E R S
(Ordering) otherwise: R S E
Stage Two: $\{ed_1\}$ morpheme: separate: R___S
(Spacing) aux *have*: separate: E___R
These four steps are sufficient to generate all basic structures.

Hornstein Stage One: *will*+aux *have*
(Ordering) $\{ed_1\}$ morpheme or other S E R
groups with aux *have* E S
otherwise: S E
$\{ed_1\}$ morpheme: R S
otherwise: S R
Hornstein Stage Two: $\{ed_1\}$ morpheme: R___S
(Spacing) aux *have*: E___R
will: $S \text{—} \left\{\begin{matrix} E \\ R \end{matrix}\right.$

H. can accomplish stage one is five steps rather than two, however even this degree of simplicity is achieved by treating the so-called future perfect idiosyncratically, in a way that it obviously could not be treated by a learner. Stage two does not differ significantly in the two models; the additional step can be seen as a direct result of the treatment of *will* in terms of basic tense structure rather than as we do.[2] However, the amount the learner has to learn in the two systems varies even more than is suggested by the counting of steps. It can be argued that the learner would learn *will have* at a late stage, but in H.'s system he would straight away have to acquire it before the other steps of stage one could be accomplished, otherwise countless false generalisations would ensue. In my proposed system, all the learner has to do for stage one initially is to hypothesise that when there is a marker of pastness ($\{ed_1\}$ or *have*), E precedes S, and in other cases it follows S. Then, as he differentiates the various ways of signalling pastness, he will hypothesise that there is a third theoretical element, R, which always immediately precedes S. Contrast this with the learning task in H.'s system: R follows S for simple present, simple future and present perfect, but follows E for the simple past, the past perfect and the future perfect. We cannot escape from the conclusion that if both systems were of equal value on the descriptive level, P.'s is undoubtedly superior in terms of its possible significance for acquisition.

2.2. Non-modal sentences:

Having considered the psycholinguistic viability of the two proposals for basic tense structures, we now turn to a consideration of the mapping of adverbials and the relative merits of H.'s systems. H. simply says (1977: 524): "Adverbs can modify R or E". However, when there are two adverbials, he has a procedure, described above in Section One, which amounts to attaching the most internal of the two adverbials to E (which I have claimed to be more basic than R, at least from an acquisitional viewpoint), and attaching the other (frontable) one to R. I adopt H.'s procedure with two adverbials, seeing the attachment of the prominent adverbial to E as consonant with my assumptions about tense acquisition. However, in cases where there is only one adverbial, I find it impossible to accept H.'s random treatment of R and E. In my system a single adverbial always associates with E if the verbs in the clause manifest a simple tense structure,[3] a consequence of the learner's initial perception of E prior to R. Naturally, if there are two adverbials with a simple tense form (as can happen), both E and R will have adverbials mapped onto them. Only in the case of complex tenses is there the possibility of a single adverbial associating with R. In the case of the present perfect, R is sought out as the only position that would result in a time interpretation for adverbials such as *now*. The choice of E or R is determined by the particular reading selected, since there is the possibility of two readings with the past perfect, cf. (5).[4] Thus, I consider my own account of adverbial mapping to be superior in that it is never random, whereas it is random in half of H.'s basic structures, and because my account continues to make use of the hypothesis that E has acquisitional priority over R, a hypothesis which would lead to an explanation of how the learner is able to develop the basic tense structures proposed by P.

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[2] It is noteworthy that Hornstein treats the future perfect as normally future, i.e. in unmarked cases he sees it as having future reference. Following our recognition of the formal tense identity of *will have* with *have*, we see the unmarked case as having past reference. Clearly, the construction refers to past, present and future with equal ease. Hornstein's position follows from his very questionable recognition of a future tense, ours follows from recognising all epistemic modals as verbs with possible future reference. Hornstein does not provide a single argument for the recognition of a future tense and is forced to assign totally different structures to the following two sentences:

i: John will be there now.
ii: John will be there in half an hour.

I would suggest that the superiority of my own proposals stems largely from the fact that I do not recognise a future tense. If we get a significantly better theory without positing such a tense, then it seems that there can be no such tense. Thus an explicit theory of tense may well lead to a solution of the apparently still unsettled question as to whether we can properly talk about a future tense. We need no longer debate whether or not tense is a morphological phenomenon: a tense is simply a verbal structure which has a distinctive basic SRE structure.

After the mapping of adverbials, we compare constraints on movement and the relative psycholinguistic validity of the two sets of proposals. H.'s proposals with respect to constraints on derived structure are discussed in Section One, and repeated here verbatim from his own paper (1977: 523):

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[3] By simple tense structure I mean instances of the simple present and the simple past (the latter being distinguished in English by an inflectional suffix in regular verbs), and a complex tense structure would involve instances of the present perfect or past perfect (where two verbs will be required to signal the tense of a clause); my distinction is based on a recognition of the perfect as a secondary tense in view of its function of deictically locating an event prior to the speech act or prior to R, the point of reference. In this respect *have* contrasts with *will*, which need not necessarily distance the E from S or R. The progressive aspect does not make a tense structure complex here because it is not itself a tense, not being responsible for any change in configuration of the theoretical entities ESR; the same goes for modals. Thus (i) is a simple tense, and (ii) a complex tense in this paper:

i: John will be working.
ii: John has arrived.

[4] See M. A. Sharwood Smith's (1976) "More on time reference and the analysis of tense" for a detailed account of factors affecting the selection of one reading rather than the other. Sharwood Smith's approach is based on an analysis of underlying predicates, thus presenting an entirely different approach to time-tense relations. However, he comes to similar conclusions to those of Hornstein and myself with respect to the fact that the auxiliary *have* is part of the tense system. On the other hand, Hornstein's work any my own revision of it suggest that the following claim of Sharwood Smith can be strongls contended with respect to the tense system: "For the purposes of contrastive analysid translation theory and pedagogical grammar, analyses that are not founded on a belief in autonomous syntax are needed". Hornstein's theory clearly assumes an autonomous syntax theory, but provides a basis for comparison between languages.

> None of SRE are associated in derived TS [tense structure] that were not associated in basic TS.
>
> The linear order of the SRE in basic TS is maintained in derived TS.

Thus the only permitted change is that any lateral element may move out of a group, but may not move into another group. My own constraints are even more severe in that they only allow this dissociation from E, and not from R or S. In practice this means that E, R____S may become E____R____S and R, S, E may become R, S____E. There are no other possibilites of derivations from basic structure. The effect of this severe constraint on derivations is to simplify the learning load, at no loss of descriptive accuracy, given the system of basic tense structure I am proposing. By way of illustration of the necessity of movement rules, consider (9), which is treated identically in both systems:

9: Yesterday, he left a week ago.
E, R____S

Yesterday is associated with R, *a week ago* with E, according to adverbial mapping rules, which guarantee a left-right temporal sequence for grammatical sentences. However, the sentence cannot yet receive a time interpretation, since E and R are associated, but refer to different points on the time axis. E, however, is permitted to move leftwards, and it is possible to give a time interpretation to (10), since different points of time are separated in correct sequence:

10: E________R________S
a week ago yesterday

A further illustration was given for *John is coming tomorrow* in Section One. Note that my system also requires the operation of a movement rule for *John will come tomorrow,* while H.'s does not.

Thus far I have summarised the differences between H.'s system and my own for sentences with what H. calls a strictly temporal interpretation. Both systems are descriptively adequate for the set of sentences that falls within this category, a category set up by H., but which I claim to be arbitrary in view of its inclusion of only some instances of *will*; thus far I claim that my system is more adequate because it presents a more viable approach to the acquisition of the tense and time reference system. We will now consider sentences with modal verbs and modal past tense, and it will become evident that my system is more descriptively adequate in that it does not have to employ any ad hoc solutions for individual cases.

2.3. Tense in modal sentences:

Hornstein has a number of exceptions to his rules for temporal interpretation. Notably, there is his Past Progressive Interpretation rule: "NP was Ving Z can have the interpretation 'NP was supposed to V Z'"; furthermore, his tense rules only apply to the modal verb *will* with future time adverbials (11a), or without adverbials; with present time adverbials or past time adverbials, (11b) and (11c), H. is forced to say that *will* is no longer a future tense marker, but is instead, an ordinary modal, a distinction now rejected by almost everyone.

11a: John will be shaving soon.
b: John will be shaving right now.
c: John will have been shaving then.

Thus, an alternative reading is provided for sentences with modal verbs: (m) S, R, E for adverbial modifiers of present time and (m) E, R____S for adverbial modifiers of past time. Presumably (m)S, R, E will also be assigned to *John may come tomorrow,* since S____R, E is reserved for *will,* although it is difficult to see why this sentence should receive a different basic structure from *John will come tomorrow.* Incidentally, the first clause of the preceding sentence provides an excellent example of timeless *will,* to which H.'s rules will counterintuitively assign the structure S____R, E. In itself this may seem of little practical consequence, but it demonstrates an inherent weakness in H.'s system. He cannot assign basic tense structures on the basis of the verbal structure alone, but has to take into account the adverbials at the stage of basic structure assignment. The whole point of his theory is to accept of reject adverbial-tense relations according to a system of rules relating the two. The necessity of looking at adverbials for the assignation of basic structures reduces a potentially predictive system to a set of observations about possible combinations.

These facts about modals, together with the special interpretation rule for the past progressive, mean that numerous *ad hoc* interpretations are provided, to keep in the language a set of perfectly normal sentences, and consequently to reduce the generality of the theory. Unfortunately, even these points do not exhaust the number of problems: H. provides no explanation for the fact that the conditional clause of (12) and object clause of (13) are well formed:

12: If we left tomorrow, we would get there on Friday.
13: I wish I knew the answer now.

Instead of a number of unrelated exceptions, as invoked by H., I propose the following general exception to the constraints on movement from basic structure to derived structure, which, together with my basic tense structures, will account for all of H.'s difficulties, and those others I have drawn attention to in (12) and (13):

14: If either E or R is to the left of S and requires to move to the right on account of an attached adverbial, it may do so, even if it crosses another symbol, but the clause minus the first verbal element will be assigned the *irrealis* reading with respect to the moment of speech.

Here are some examples of how rule (14) applies: contrast (15) and (16):

15: If John comes tomorrow, ...
Basic structure: R, S, E
(tomorrow)
Derived structure: R, S_____E
tomorrow

16: If John came tomorrow, ...
Basic structure: E, R_____S
(tomorrow)
Derived structure: R____S____E
tomorrow

In (16), following rule (14), E has moved to the right, destroying the *realis* reading; it has had to move to the extreme right of S in order for a time interpretation to be possible. The tense element is normally considered the first verbal element of a finite clause, thus in (16) *John comes tomorrow* is specified as *irrealis*, or simply "not on", in contrast to (15), where *John comes tomorrow* remains a real possibility. Consider (17), where the verbal structure manifests a complex tense (cf. note 3), and thus the adverbial may be associated with E or R:

17: John will have arrived tomorrow.
Basic structure: E__________R,S
(tomorrow)
Derived structure: R,S_____E_____

We assume here that it is associated with E; rule (14) then produces the transformation to derived structure indicated and the *irrealis* meaning is assigned to *John has come tomorrow,* which clearly contrasts with the *realis* meaning of *John will come tomorrow,* where the event is a real possibility at the time of speaking. *John has come tomorrow* is not a real possibility at the time or moment of speech, since its question transform can never receive an affirmative answer. A final example of the operation of rule (14) will involve a sentence with two adverbials, (18):

18: Tomorrow, John will be leaving in a week.

The fronted adverbial is attached to R and *in a week* to E. By rule (14) R travels through S, pushing E further to the right, resulting in the derived structure illustrated in (19):

19: Basic structure: R, S, E
Derived structure: S____R____E
tomorrow in a weak

The *irrealis* interpretation is attached to *John is leaving in a week,* which indeed is an unreal plan at the moment of speaking. The prediction in (18) is that John's leaving will take place a week from tomorrow, not from the moment of speech. Contrast this state of affairs with (20), where it is predicted that John's leaving will take place in a week, and where rule (14) has had no reason to operate and assign an *irrealis* reading.

20: John will be leaving in a week.
Basic structure: R, S, E– – –
Derived structure: R, S____E– – –

It might seem that after constraining derived structure even more severely than H., I am guilty here of abusing all constraints in order to account for some sentences with modal verbs and other sentences with modal past tenses. A number of points have to be made in support of my proposal: firstly, the fact that when a time relation constraint is violated by the crossing of any two elements of SRE, it seems an inherently natural state of affairs that it should cause us to move out of the real world; secondly, the proposal has the effect of dividing into precisely two sets those clauses with modal verbs where the speaker considers the proposition expressed by the rest of the clause as possible at the moment of speaking and those where he considers the proposition expressed to be impossible at the moment of speaking (the question form of the proposition can only receive a negative reply in impossible cases, as demonstrated for (17));[5] thirdly, although giving a temporal interpretation, it accounts convincingly for the ungrammaticality of sentences like (21):

21: *John came tomorrow.

It interprets them in derived structure as

R____S____E_{tomorrow}

as a result of rule (14)) and labels them as *irrealis* or inherently unlikely. The point is that the rules of language use tell us that main clauses are normally interpreted as statements of fact, and something which is inherently unlikely simply cannot be stated positively in a main clause. Thus an *irrealis* non-progressive main clause is always rejected as ungrammatical. Progressive *irrealis* main clauses are possible because the progressive signifies incompletion, whereas its absence signifies completion. The incomplete nature of

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[5] We do not consider here the additional complexity introduced by negation, since it involves no problems, but simply makes the computations more involved.

irrealia is reasonable; the completion is absurd. Fourthly, besides avoiding the *ad hoc* nature of H.'s multifarious ways of dealing with modal pasts and combinations of modal verbs (and perfectives) with adverbials of present and past reference, requiring special rules of interpretation and a whole supplementary set of basic tense structures, our basic rules and contraints, with this one special exception to the constraints, account uniformly for all cases which H. cannot account for.

22: *John will come yesterday.

Hornstein is unable to systematically exclude (22), because if he sets up an arbitrary structure for *John will have come yesterday* of the form (m)E, R—S, there seems to be no reason why he should not also use it for (22). In fact, this illustrates the crux of his problem: once a modal is used with any adverbial other than a future adverbial, he has no system whatsoever — only arbitrary solutions, which he constantly extends to achieve observational adequacy, but which clearly fall short of descriptive adequacy. In contrast, even our exception to the general constraint, rule (14), can be seen as having explanatory value with respect to learning: by travelling through another abstract entity, the E or R can no longer claim to have currency in the world of the speech act, and thus becomes *irrealis*.

23: Tomorrow, he will arrive in a week.

Our system accepts double punctual adverbials as in (23), just as it accepts all the grammatical examples of double punctual adverbials in Hornstein (532). Our system also accepts (24a) - (26a) and rejects (27a). Hornstein's system would first of all need a further basic structure, namely (m) E—R—S, which would allow it to accept (25), but it would still incorrectly reject (24). But (24) is clearly interpretable and could mean something like: 'Judging by the way he was acting a week ago, John would have left at the earliest opportunity, namely yesterday, but he is still here, so things must have changed'.

24a John would have left yesterday a week ago.
b: A week ago, John would have left yesterday.
25a: John would have left a week ago yesterday.
b: Yesterday, John would have left a week ago.[6]

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[6] Doubts may exist about whether *yesterday* can be fronted in (25). In fact it can, with appropriate intonation, whereas it never can in (26). The distinction is even clearer in the following examples:

ia (=25): John would have been gone a week yesterday.
b : Yesterday, John would have been gone a week.
iia (=26): John will have been gone a week yesterday.
b : *Yesterday, John will have been gone a week.

26a: John will have left a week ago yesterday.
b: *Yesterday, John will have left a week ago.
27a: *John will have left yesterday a week ago.
b: **A week ago, John will have left yesterday.

Perhaps (25) is not obvious in its meaning out of context. It could mean: 'My prediction is that John left a week ago from yesterday (8 days ago)'. Consider the analyses of (24) and (25), which are formally past perfects, the past marker being attached to the modal. In P.'s system the basic structure of (24) is (28a):

28a: E________R________S
(yesterday) (a week ago)

a week ago is attached to R, being the frontable adverbial. By (14) E moves through R and the clause minus the first element ($\{ed_1\}$) is assigned the unreal interpretation, which is precisely what (24), but not (25) must mean, since *John will have left yesterday* simply is not the case. P.'s derived structure of (24) is thus (28b):

28b: R________E________S
a week ago yesterday

In H.'s system there is no way that the correct ordering can be achieved for (29), which must be his basic structure for (24), thus he is forced to reject this grammatical sentence, in spite of his special modal basic structure.

29: (m) E________R________S
yesterday a week ago

In P.'s system and in H.'s there is no problem with the analysis of (25b), since the basic structure, regardless of whether there is an initial (m), is also the final structure in both cases:

30: E________R________S
a week ago yesterday

However, another analysis is possible for (25a): it is arguable that *a week ago yesterday* is one adverbial rather than two, the four words being replaceable by *then*. In this case, this one adverbial could associate with either E or R, indicating that the leaving either (a) took place a week ago yesterday, or (b) had already taken place then. It seems that (25a) is genuinely ambiguous in this respect. Under the original two adverbial analysis, the (a) reading is forced, which is confirmed by our speaker intuitions about the fronted variant where two adverbials must be involved. None of the other sentences demonstrate this ambiguity. In (24), *yesterday a week ago* cannot be replaced by *then* and must only be two adverbials; (26) must be interpreted as having only one adverbial since fronting is not possible, and the basic structure only allows this to be placed in one position. No judgement is possible for (27) since it is clearly an unacceptable sentence.

(26) presents no difficulty in the P. system: *a week ago yesterday* is one adverbial and it will be assigned to E, association with R being impossible since my system does not have the option of moving S rightwards in the derivational rules:

31: E________________R, S
a week ago yesterday

H., however, can associate *a week ago yesterday* with R, given his special modal *will have* structure: (m) E, R____S. Although this option is without practical consequence here since E and R are cotemporaneous, it leads H. into trouble with his theory because it is an established fact that when *will have* or any other modal +*have*, refers to the past with only one punctual adverbial, that adverbial refers to E, not to R. Thus (32) can only mean 'John, according to the prediction, saw her last Sunday'. The *already* means 'before now' in (32), not before last Sunday:

32: John will have already seen her last Sunday.
33: John will have already seen her on Sunday next.

Thus H. would provide a theoretically unsatisfactory reading by associating the adverbial with R. In contrast, (33) may be a prediction either that John sees her on Sunday or by Sunday. This future reference is catered for in H.'s system and follows automatically in P.'s from the fact that the *irrealis* use of the perfect for a future event may arise from either E or R travelling rightwards.[7] Thus, this is a further plus point for the P analysis, that it correctly and systematically predicts the ambiguity of *will have* with present or future reference, and the unique reading of *will have* for past reference. In contrast, *would have*, with its distinct basic structure, is correctly predicted as being ambiguous in both past and non-past readings.[8]

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[7] *John will have seen her on Sunday next* has the following basic structure: E____R, S. If attachment of the adverbial is to the R, giving a meaning synonymous to *by Sunday next*, then R travels rightwards, as in (i); otherwise, attachment is to E and the prediction is that John sees her on Sunday, as in (ii):

i: E____S____R on Sunday next
ii: R, S____E on Sunday next

[8] Interesting evidence of the inability of past time adverbials to associate with R in *will have* constructions is to be found in considering alternatives to *He will have finished last Sunday*. This, according to Pankhurst's analysis of tense structure and our intuitions about meaning, can only mean that the day he finished was Sunday. How can we express the meaning that it is likely that he had finished before Sunday, using a punctual ad-

In H.'s system (27) is completely ruled out for the same reasons as (24) was wrongly ruled out. In P we would have a basic structure with adverbial attachment as in (34):

34: E________________________________R, S
yesterday a weak ago

According to rule (14), E could travel to a position between R and S, which would give an *irrealis* reading and have entities in the correct order, but they would also require separating from each other. There is no mechanism in the rules for separating items out, for R cannot move leftwards, nor can S move rightwards. Thus (27) will be rejected if it is interpreted as having two separate adverbials. There would be no problems with only one adverbial, however, *yesterday a week ago* itself has no meaning, in other words, the rules of English have no provision for giving these words a semantic reading as one phrase.

We now consider the special case of finite instances of the auxiliary *have* in English. H., surprisingly, recognises *John has come home yesterday* as grammatical, if not entirely felicitous. The sentence has the structure in the P. system of E____R, S. Justification for setting the E anterior to S comes from our intuitions about the relation of the event to the moment of speech and the fact that certain indefinite past adverbials such as *in the past, before today* could replace *yesterday*. Language teachers are well aware of the unique status of English among European languages in not allowing punctual adverbials with *have*. However, the restriction is not absolute for as an infinitive it accepts punctual adverbials freely, as well as in its past tense forms, cf. (35):

35a: To have gone yesterday would have been silly.
b: I would have come yesterday.
c: He had seen her yesterday.

---

verbial (thus not *by Sunday*)? One way is with a modal adverbial; another the past perfect with modal verb:

He had probably finished on Sunday.
He would have already finished on Sunday.

Both would have the basic tense structure E____R____S, making it possible to join the adverbial to R. Another interesting way would be to change the construction into a stative one:

He will have been finished last Sunday.

Compare also the following pair, noting that the second does not necessarily imply that John didn't do the painting:

John may have painted the house last Sunday.
Jonh may have had the house painted last Sunday.

In the first case the painting took place on Sunday, in the second it may have been on Sunday or before Sunday. The relation of stative clauses to time adverbials in the context of this theory of tense awaits investigation.

In view of the fact that non-finite *have* can occur with past adverbials, superficially the rejection by finite present *have* appears arbitrary, especially in view of the evidence from other languages. In actual fact, the non-occurrence of past time adverbials with non-finite *have*, even if arbitrary, is not as pointless as it might appear. *Have* is normally assumed to be a marker of perfect aspect, i.e. a way of showing that something has been completed at a certain point. To indicate completion at a certain point and to indicate the actual point of performance is pragmatically rather too much of a good thing. Other European languages, where both possibilities exist, rarely make use of both at the same time, but cf. (36) below. However, in view of morphological inadequacies in the system, *have* is sometimes forced into doing duty as a marker of pastness: e.g. the past morpheme can only be attached to finite verbs and thus pastness can only be indicated in non-finite clauses and after some modal verbs by *have*, and in such cases there is no alternative but for a past time adverbial to co-occur with *have*. Thus, by force of necessity, *have* has taken on full past tense adverbial carrying capacity in its non-finite forms. There seems absolutely no reason at all in principle why it could not do so in its finite present form as well, retaining its ability to carry adverbials referring to the present. The rather artificial Dutch example in (36) illustrates that *hebben* is not sometimes past and sometimes perfect, but is both at the same time (the context is that the speaker, an enthusiastic birdwatcher, realises to his delight that he saw three rare bird species yesterday, not two as he had originally thought):

36: Nu heb ik dus gisteren drie soorten vogels gezien.
(Now have I thus yesterday 3 kinds of birds seen)

Thus, all the evidence argues that we should, in a universal theory of tense, treat the finite form of *have* in the present perfect as an exception; consequently, I propose the following superficial solution (37):

37: Basic structure of present perfect: $E\rule{1.5em}{0.4pt}R, S$
If *have* is finite, circle E: $\boxed{E}$

The function of the circle will be to prevent any punctual adverbial attaching itself. Attachment to R will thus be forced, and will be ruled ungrammatical by the ordinary rules. Such an arbitrary system would be required by H. as well. Cases like this where arbitrary solutions are inescapable point to genuinely idiosyncratic features within a language system. This comment on *have* completes my proposed revisions to H.'s system; Appendix One summarises my revision proposals for basic and derived tense structure and time interpretation.

3.0. Tense relations in complex sentences:

In the second part of his paper, H. provides a rule for guaranteeing the grammaticality of tenses in sentences with adverbials of time linked by temporal connectives (1977 : 538):

> Line up the S points of P_i and P [where P_i is the adverbial clause and i indexes the elements of that clause][1]; that is, write the TA of P_i and P, lining up the Ss. Move R_i to under R, placing E_i accordingly (preserving linearity and associativity relations of basic TS).

If it is possible to perform this operation, sentences have grammatical tense relations. H. investigates some 50 sentences and the system works perfectly for all sentences with a strict temporal interpretation. My own system also provides identical results for all sentences, bearing in mind that my system does not allow the lining up of Rs (only Es can undergo dissociation), itself a useful simplification. Furthermore, while H. is able to exclude instances of *will* in temporal clauses by means of his theory of tense, I rely on a more general rule which excludes epistemic modals in conditional and temporal clauses. H.'s system would also need to make use of this general rule for epistemic modals other than *will* in clauses of future reference. My system, like Hornstein's, rejects his (74) and (94):

74: ? John will have come when we $\left\{\begin{array}{l}\text{had arrived}\\ \text{arrived}\end{array}\right.$

94: ? John will have left after Harry $\left\{\begin{array}{l}\text{had come}\\ \text{came}\end{array}\right.$

It is impossible to align the Rs, as can be seen in (38) for H.'s approach and (39) for mine:

38: P: S___E___R
P_i: ER___S
39: P: E___R, S
P_i: E___R_____S

While it initially seems as if such sentences should be rejected as ungrammatical, introspection will reveal that these are possible sentences with respect to the past, although they would be ungrammatical if the adverbial were fronted, cf. (40). However, (41), which both systems predict as grammatical, can undergo adverbial fronting without loss of grammaticality!

40a: *When we had arrived, John will have come.
b: *After Harry came, John will have left.
41a: John will have called his mother before Bill has phoned.
b: Before Bill has phoned, John will have called his mother.

Thus it seems to be the case that my system is certainly as satisfactory as H.'s for predicting the grammar of temporal connectives in that it works in the same way as his does for all his examples, under his pure time interpretation. In addition it will work under all possible interpretations to specify the grammaticality of tense relations for sentences where the adverbials are fronted. Nevertheless, there is a small set of grammatical sentences with adverbial clauses in final position which are rejected as ungrammatical and thus are apparently not covered by the theory. They consist of precisely those where *have* functions with past time reference. I have not presented here more detailed applications of the rule discussed above since I believe that at this stage there are unresolved problems in both H.'s and my own system; however, it should be clear that the revisions proposed in Section Two extend rather than reduce the ability to predict the grammaticality of tense relations between clauses.

One area where this system of acceptance or rejection does break down for H. and myself is in the analysis of the temporal connective *since*. We both wrongly predict that (42) is ungrammatical:

42: Bill has played ball since he came back.
H.'s analysis: P: E______S, R
P_1: E, R____S
P.'s analysis: P: E______R, S
P_1: E, R____S

In H.'s system it is impossible to align the Rs because it would involve crossing S; in my system one is not allowed to move the Rs, so the sentence is rejected. H. recognises that *since* must be idiosyncratic in this respect in English. Other languages do not follow the same pattern, but normally take a present or perfect after the equivalent of *since* with a preceding present perfect (Dutch however is like English in this respect). The case of *since* constitutes an important example of how an explicit theory can help us to establish whether we are treating of genuine differences in languages or whether we are treating of a less important idiosyncracy of one language, which although a contrastive difference, does not rank as a systematic one in a comparison of the two languages as a whole.

The above rule for aligning the SRE points of two propositions also allows us to interpret which event happened first, according to whether the E of P or P_1 is further to the left. There is no difference in the results obtained by H or by myself. However, it should be noted that some of H.'s claims are of dubious accuracy, especially with respect to his (122c):

122c If E_1 and E_2 are coincident, then either the events in P_1 and P_2 are contemporaneous or E_1 precedes E_2 or E_2 precedes E_1.

Examination of H.'s (110) will show that in fact the events are coincident or E_2 precedes E_1, but the third possibility does not exist:

110: John built his sailboat when Bill wrote his novel.

Perhaps the most immediately fascinating aspect of H.'s whole paper is the fact that one can predict whether *before* is factual, counterfactual or ambiguous according to the position of one E relative to another:

> If E_1 is prior to E_2, a time sequential reading is forced.
> If E_2 is prior to E_1, a counterfactual reading is forced.
> If E_1 and E_2 are in the same position either reading is possible and will usually be resolved by the context.

Thus the theory of tense can provide a uniform semantic interpretation of *before*, rather than necessitating the positing of two *befores* (as Lakoff has proposed). It is possibilities of this kind that show the inherent worth of H.'s theory and have led me to propose the revisions described here. Hornstein's work on temporal connectives is fragmentary, but is sufficient to suggest that the theory would provide a precise framework for cross language characterisations of temporal connectives, in addition to crosslanguage studies on tense and adverbial restrictions. However, the most significant contribution which it can make is to provide a justified theoretical framework for a language-independent definition of tense. The notional approach to tense has been replaced by a morphological approach, and that is giving way to a more adequate semantic approach, but confused notions of a future tense survive, at least in English studies. If there is no basis within the theory of tense for positing a distinct basic tense structure for a supposed tense, then there can be no such tense. The perfect in English has far more respectable claims to being called a tense in English, although these were overshadowed by the morphological approach to tense; this theory of tense indeed shows that the perfect has tense status. Finally, I believe I have shown that it is possible to incorporate modal pasts and *irrealis* verb forms into a general theory of tense, rather than making such verbal structures into an awkward appendage to the so-called proper uses of the tenses.

APPENDIX

Summary of rules in the Pankhurst revision of Hornstein

Stage One: Assign basic tense structure as follows disregarding modals and progressives, but recognising that the past tense morpheme may appear on a modal verb:

i: Simple present: R, S, E
ii: Simple past E, R___S
iii: Present perfect E___R, S Circle the E if *have* is finite
iv: past perfect E___R___S

Stage Two: Attach punctual adverbials to E and R as follows: For sentences with one adverbial only:

If tense form is simple (no form of aux *have*) attach to E.
If aux *have* is present, attach to E or R, unless circled.

For sentences with two punctual adverbials:

Attach the fronted adverbial to R. If neither is fronted, attach the second to R.
Attach the other to E.

Stage Three: Proceed to derived tense structure: in order for a tense structure to be acceptable, adverbials must have been attached in such a way that they follow the temporal axis on a right left basis, thus future time adverbials must follow S and be separated by a line from it. Past time adverbials must precede S, present time adverbials must only be separated from S by a comma. In the case of two past or future adverbials, the earlier must precede the latter. Certain transformations of basic tense structure are allowed in order to bring S, R and E into the proper temporal relations required by adverbial attachment. We will now refer to the two transformations as the *realis* and *irrealis* rules:

Realis: When E is on an extremity and is associated with another entity, R or S by a comma, it may move out of this association.

Irrealis: (14) Any element to the left of S may move rightwards for the proper positioning of an attached adevrbial. The result of such movement is that the clause minus the first verbal element receives an *irrealis* interpretation at the time of the speech act. In all respects the full temporal interpretation is maintained.

Stage Four: Accept sentences as having a time orientation if points of time are separated from each other, earlier ones preceding later ones. Otherwise reject.

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